

STUDIES IN QUESTIONED DOCUMENTS: NUMBER FOUR

**EXEMPLARS:**

**GENUINE SAMPLES FOR COMPARISON WITH  
QUESTIONED WRITINGS AND DOCUMENTS**

**BY**

**MARCEL B. MATLEY**

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## 1. SECTION ONE: DEFINITIONS OF TERMS

A forensic expert should have precision in using legal as well as technical terms. One should invest in a good legal dictionary, BLACK'S LAW DICTIONARY being a highly regarded reference. The following are offered as working definitions for purposes of this paper.

1.1. ADMISSIBLE. Admissible evidence is both proper and probative to help in deciding the issues before the Court. It accords with relevant rules of evidence, and the Court should permit its introduction.

1.2. AUTHENTICATION OF DOCUMENTS. The documents are shown to be what they purport to be. The law sets forth the rules for proving or disproving that any document is authentic. The expert opinion of the document examiner is one, and far from the most common, method permitted.

1.3. COMPELLED EXEMPLARS. Those given by a suspect by virtue of a court order. If the exemplars are not given, the person is subject to being found in contempt.

1.4. CONTEMPT OF COURT. In colloquial terms, anything a person does to give the Court a hard time or disobey it when it is trying to do its work.

1.5. DEMONSTRATIVE EVIDENCE. Generally, any evidence that the fact finder can physically examine in some way. Specifically, it means illustrations, such as charts and photos, that help show facts about the real evidence.

1.6. DOCUMENT. In the broadest sense, it is any kind of symbolic message on any kind of material which conveys intention or establishes facts and can serve as evidence in a court of law. For our purposes, writing on paper.

1.7. EXEMPLAR. A provable genuine sample of any physical item for comparison with a piece of physical or real evidence in order to identify the latter or ascertain any characteristic of it. Whenever the law requires that you give fingerprints, they serve as potential exemplars.

1.8. FACT FINDER. The jury, or the judge if there is no jury proceeding, who must decide, in accordance with the rules of evidence, what actually happened and what the evidence really proves.

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1.9. FALSITY. Falsity in a document means that it is not genuine and that the person making it or putting it forth is aware of that. Per se it does not imply illegality, as when it is used for illustration or jest.

1.10. FORENSIC. This simply means something having to do with courts of law. "Forensic handwriting analysis" is thus the science of handwriting analysis adapted to serve the purposes of legal proceedings.

1.11. FORGERY. The false document is knowingly made or used for fraudulent purposes. Technically the document examiner does not determine forgery, only falsity. Forgery is a finding of law that only the Court can make, just as only the Court can declare that one who killed is guilty of murder.

1.12. IMPEACHMENT OF A WITNESS. On cross-examination the opposing attorney brings out something which convinces the judge or jury to doubt, discount or disregard the witness' testimony in part or in whole.

1.13. MAKING OF A DOCUMENT. This is the creation of the document. The "maker" is the person who brought it into existence as it now is. "To make" a signature is to write it on the document.

1.14. OPINION EVIDENCE. The testimony of one with expertise because of knowledge, skill or experience in some aspect of the real evidence.

1.15. PRODUCTION OF A DOCUMENT. "To produce" a document means to make it available to someone.

1.16. REAL EVIDENCE. The evidence derived from physical items in the case. The questioned documents are the real evidence; the expert conclusion is opinion evidence; and the enlarged photos are demonstrative evidence.

1.17. REQUESTED EXEMPLARS. The suspected writer is asked to give handwriting samples and complies voluntarily. In this discussion, methods of taking requested exemplars are applicable to compelled exemplars. So the former term is used to cover both. When a thing is special to compelled exemplars, the context will make that clear.



## 2. SECTION TWO: THE PROBLEM

2.1. Some kind of document is used in virtually every transaction in a modern society. To illustrate how pervasive documents are in your life, think about buying a candy bar from a vending machine. All the ads about the brand you want, except purely verbal ones on radio, were documents, even the images on your TV. The vending machine is a document, being covered with ads and instructions for its use. The coins you put in are documents, as is the wrapper you throw away afterwards into a waste container saying "DON'T LITTER" - itself a document!

2.2. If disputes rise over any of these transactions, we can best prove our contention if we have all the documents involved. If the transaction was in part verbal, there is only the memory of the parties, whose minds are swayed by emotion, time lapse and personal desire. But physical documents, which have no emotion, etc., say the same today that they did yesterday and will tomorrow.

2.3. So if someone believes the document either does not exist or says the wrong thing, the thought comes up: why not "correct" or create the right document? If rich people die intestate, many other people's hearts go out to the poor orphaned money, claiming they found the last the will and testament showing it all belongs to them. More often forgery backs a real estate scam; and for most amateurs it is a charge slip or check. It can be a simple thing as numeral one changed to four on a doctor's form to the employer. That magically gives the employee a few extra days of paid sick leave.

2.4. Whenever someone falsifies a document in any way to gain money or advantages not rightfully one's own, it is an act of both deception and injustice. The person poisons the underlying trust that makes civilized and social life possible. The document examiner is dedicated to discovering that breach of trust and so helps restore the justice which has been violated.

2.5. To discover whether or not a document is false, one has to know the true document of that type. To find out who made a false document, one has to know how any suspects would actually make a true document. Exemplars are the genuine samples which let the examiner know what the truth is and thus find out what the false has been.



### 3. SECTION THREE: LEGALITIES

3.1. I am not an attorney and do not presume to offer legal advice nor to give authoritative explanations of legal matters.

3.1.1. What follows is the sharing of a layman's understanding. You are urged to go to the recognized, respected and reliable legal publications. An examiner of questioned documents should have a basic understanding of applicable law and keep abreast of current rules for the jurisdiction one is working in.

3.1.2. The bibliography has some references to publications that treat of the law applicable to document examination. There are also articles of historical interest, giving the law current at the time they were published or giving a historical treatise per se. To lack a historical perspective on our occupation, as on our citizenship or family or the world in general, is an excellent foundation for all kinds of foolishness.

3.1.3. Statements on legalities which appear in the annotated bibliography will not be repeated here, unless essential to the discussion.

3.1.4. The examiner must be most circumspect in any statements attributing or implying legal guilt or moral turpitude. All reports and testimony of the document expert must be strictly confined to statements of verifiable facts and reasoning processes based on accepted scientific principles.

3.1.5. To say a subject wrote another's name is one thing; to say the person committed forgery is quite another, being a determination only a court of law can properly make. To say a document is false, states a fact. To say the maker committed fraud is a statement of law. Our job is solely to discover and report objective, provable facts, and so help judge and jury make appropriate findings of fact in the case.

3.1.6. In every case, the attorney is the manager whose instructions the document examiner must follow. Any legal questions must be referred to the attorney. However, you must maintain your professional and personal ethics, withdrawing from the case if need be.

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3.2. There are some ethical norms particularly applicable with regard to exemplars.

3.2.1. It is unethical simply to provide clients with the "proof" of whatever position which supports their claim. The document examiner must be strictly objective. If an examiner's findings support clients more than 60% of the time, his objectivity could use some good soul searching. If it reaches more than 70% of the time, it is a fair bet that either his ethics or his competency should be questioned.

3.2.2. Relative to the above point, one ought not select exemplars solely for the convenience of avoiding difficulties in proving the desired "facts".

3.2.3. The document examiner is not an attorney and must be absolutely scrupulous in avoiding even the appearance of giving legal advice or performing legal functions.

3.2.4. No matter how imperative a course of action appears from the examiner's viewpoint, the final decision rests with the attorney and should be gracefully complied with. A professional examiner will make the best of the most adverse situation.

3.2.5. Any unethical act would be grounds for impeachment of the expert testimony.

3.3. The exemplars intended for court use must have the following qualities in order to be admissible:

3.3.1. Provable to the Court's satisfaction that the exemplars are genuine as to being by the alleged author;

3.3.2. Provable to the Court as valid and probative as comparison material with the questioned sample;

3.3.3. Not having been selected prejudicially; for example, if only samples or parts of samples are used which unfairly overemphasize the "facts" one wants to prove, while genuine samples which would raise doubts or problems are withheld from the Court;

### Exemplars: Samples for Comparison

3.3.4. Not of a nature to raise collateral or extraneous issues in the case; for example, a letter is used as an exemplar which attacks the character of one of the litigants as a parent, when the issue is the validity of a business contract.

3.4. Some other things can give greater legal status to exemplars.

3.4.1. When requested exemplars are used, collected exemplars can be offered along with them, demonstrating either their validity or an element of disguise, which is present and might be used to impeach the expert opinion.

3.4.2. Many suggestions are given in this discussion. Particularly in requested exemplars, before employing them check with the attorney to be sure that, because of some other element in the case, they would not be detrimental to the case or open up avenues of attack by opposing counsel. Nothing the document examiner does is in isolation.

3.5. When exemplars are needed to be made by the opposing party and it refuses to supply them voluntarily, a court order is required to compel them. The lawyer handles that. Forms for petitioning the Court for the order as well as the form of the order itself can be found in references that give forms of pleading and practice. The order should specify precisely every detail of the exemplars required for the proof of the matter and the procedure for obtaining them. Give these details to the attorney, along with what the technical justifications are. There is no guarantee on what the Courts will allow, for they can vary widely in what they will and will not allow in such orders. As a professional, you should work to obtain the best evidence you can, however adverse may be the Court's response to the petition for the order.



#### 4. SECTION FOUR: GETTING BACKGROUND INFORMATION

4.1. First of all be very sure of the precise question to be answered. The type of exemplars needed from which person(s) will be defined principally by the problem to be solved. The possible basic questions to be addressed are these.

4.1.1. Did the alleged author actually make the document in question?

4.1.2. Has there been any alteration, deletion or addition to the original document?

4.1.3. Did named person(s) make or alter the questioned document?

4.1.4. Can the materials (pen, paper, etc.) or the means (typewriter, check protector, etc.) of making the document be identified?

4.1.5. Was this specific machine used in making the document?

4.1.6. The document examiner must be able to redefine the problem in light of subsequent findings. For example, the client might ask whether a signature on a typed will is genuine. Examination shows that it is, but that there is an unaligned sentence inserted at the end of one paragraph. Now the questions are: who with what typewriter made the insertion; was it there when originally signed?

4.2. Be aware of special questions raised by the particular circumstances. The possibilities are virtually infinite, but the following illustrate the kinds of questions that might be raised.

4.2.1. Does the person authorize others to sign his name? Who are such signers, in which circumstances are they authorized to sign and what are the limits of that authorization? Whether and when such signatures are legal signatures of the person is a question of law which is out of your bailiwick. Your job would be to determine who signed which questioned signatures and leave to others the work of sorting out the legal ramifications.

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4.2.2. Attorneys and clients often like to tell you what in the writing proves it to be as they wish it to be. This gives you an opportunity to educate the person on the principles and techniques of your work and alerts you to the things that the fact finder might stress, to the detriment of seeing the real picture. If attorney or client do explain to you what seems to prove the claim, that could well be a basis for the opposing attorney to impeach your opinion in Court by implying that you were paid to follow instructions regarding findings and opinions to be reported.



## 5. SECTION FIVE: EVALUATING THE QUESTIONED DOCUMENT

5.1. Always study the questioned document thoroughly.

5.1.1. In FORGERY: DETECTION AND DEFENSE, I give checklists of items to look for in any questioned document. You should develop your own, drawing from all available sources.

5.1.2. Study the document not only in reference to the problem posed to you, but also to determine whether or not there is something to raise further questions to be brought to the attention of the attorney.

5.1.3. Ascertain if both sides have already stipulated to certain facts about the document. If they agree to the forgery of the questioned checks but not to the forger's identity, you would not spend time demonstrating falsity in the checks.

5.1.4. Are there external and non-document sources of evidence that you might recommend be pursued?

5.2. Many factors have been proven to have influences on the handwriting. Study of the literature will alert you to the signs of these various influences. Obviously many of these factors cannot ethically or even legally be induced in the writer during the taking of requested exemplars. However, they may be discovered in collected exemplars. Consider the following factors.

5.2.1. Fatigue, whether from great physical exertion or poor health or other causes.

5.2.2. Strong emotions, which can be compounded by great effort at control, have specific affects on the writing for the occasion. Emotional imbalance and a mental illness would produce similar affects habitually~~x~~ but probably not consistently and according to a pattern. The professional literature has information on this topic.

5.2.3. The importance of the occasion of the writing can alter the person's style. Signing for routine UPS deliveries is usually not quite as serious as for one's last will and testament. Many people have distinct signature styles depending on the occasion.

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5.2.4. Use of chemicals affects behavior and motor sequence. While we all are familiar with drunkenness and maybe with drug usage, we might be unaware of how smoking, or not being able to smoke, consuming great amounts of sweets and similar things can have subtle to gross effects on the fine elements of the writing.

5.2.5. Abnormal circumstances under which the writing was made will affect the results. Bedridden persons in the last moments of life will hardly write as vigorously as previous to the onset of mortal illness. Others are an unsteady surface, an odd position, a moving vehicle, and a myriad of other possibilities.

5.2.6. Physical handicaps, such as a sprained hand or poor eyesight with one's glasses left at home, affect the writing.

5.2.7. Inquire about all these and other possible circumstances affecting the questioned writing. Does the quality of the writing support such contentions? How might one discover exemplars written in similar circumstances?

5.2.8. Does the writing suggest a circumstance or condition other than what you have been apprised of? What internal data supports that and how can you verify it otherwise?

5.2.9. Finally, any sudden, isolated or unexpected divergence in style should be accounted for.

5.3. Other factors which determine the kind of exemplar which is most desirable are these.

5.3.1. The purported date of the questioned writing must be considered. If exemplars show anachronisms, that is writing traits the alleged author used only prior or subsequent to the alleged date of the questioned writing, a finding of falsity is supported. So, though you concentrate on exemplars contemporaneous to the questioned writing, you still are helped by having some from dates before and after. However, in some circumstances there simply are no contemporaneous samples, as when a seriously ill person has rare occasions to write or the person just never writes.

### Exemplars: Samples for Comparison

5.3.2. Apropos to the above, individual changes in writing traits vary a lot, though there are some general patterns. Children develop gradually and then more dramatically in their late teens. Adults change gradually. Notable change in personality, occupation, trauma, and so on may trigger notable writing changes. Illness and age induce changes in proportion to the speed and intensity of their onset. Often people try heroically to counteract change by involuntary influences. Yet I do not know of any author who stated how to predict with certainty the exact effect of any of these factors. Still the literature has many validated studies on the relation between such influences and handwriting traits.

5.3.3. Materials of the writing must be determined: primarily writing instrument, medium (ink, lead, etc.) and paper.

5.3.4. Often people have distinct styles for normal writing and for signatures. Ordinarily, writing style can differ dramatically depending on purpose. Most common is a more cryptic and hasty writing for personal notes. You could well go wrong in basing conclusions upon the wrong class of exemplars.

5.4. In any case, authors seem to agree that three to five pages of regular writing and one to two dozen signatures are absolute minimum for unequivocal results. Then one must add in such special factors as mentioned above.

5.5. Some situations simply do not require exemplars. For instance, if a suspected will has watermarks dated definitely after the time of death, there is no need to collect the purported author's exemplar signatures and do a comparative examination. The examiner would want to eliminate the simpler methods of resolving the problem before embarking on the more complex. To do otherwise is to be incompetent and/or unethical.



## 6. SECTION SIX: COMPARABILITY IN EXEMPLARS

6.1. The exemplar, in order to serve its purpose, must show the following:

6.1.1. A person's normal and natural writing; for signatures, how one signs one's name which might well be different from how the person writes, even how one writes one's own name;

6.1.2. The person's penmanship skill and ability; put another way, the degree of the person's graphic maturity and originality; this should cover the full range of skill from worst to best expression of writing style, as for instance when one may be precise and most careful in writing important legal documents but utterly undisciplined in making random notes;

6.1.3. How the person might have written the questioned writing;

6.1.4. The person's basic writing habits;

6.1.5. Any unusual, occasional or rare handwriting habits; such things will ordinarily show up only in extensive samples of writing and/or in a very lengthy sample; by "occasional" I mean habits that occur in special circumstances, as when a person will write in one style to the boss, another to mother and a third ordinarily;

6.1.6. The type, extent and pattern of the person's variations;

6.1.7. The complete spectrum of writing traits at the time the questioned document was made;

6.1.8. Writing traits the person no longer uses but has changed should also be ascertained; this is sometimes necessary since disguise and other fraudulent writings often revert to prior writing traits; they may also indicate that certain imitations are within the person's potential skill;

6.1.9. How various writing conditions influence the person's variations.

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6.2. Influences that alter a person's writing would mean samples without such influences may not be comparable. For example, alcoholics have three distinct writing patterns: when sober, when drunk and when in withdrawal. Therefore, for an absolutely complete comparison three sets of exemplars would be needed. Writing done in one state might not be probative when compared to that done in the other two. A rarer example would be persons subject to changes in personality, as one with split personality. The writing can be dramatically altered from one personality state to the next. The professional literature has information for these special circumstances.

6.3. As in all things, there are reasonable limits to what exemplars are expected to show.

6.3.1. They need not show every minutia of the individual traits. It is enough that they show those which relate to the pertinent traits in the questioned writing.

6.3.2. They need not show all patterns, but hopefully those in the person's genuine writing which are always or mostly present in such a habitual or unconscious way as to be expected to show even in disguised or imitated writings.

6.3.3. They need not anticipate every possible objection opposing attorney might raise. It is sufficient to address those your experience and circumstances within the case point to.

6.4. In summary, in order to be probative an exemplar must be:

6.4.1. Adequate in quantity;

6.4.2. Representative of the genuine handwriting in quality; and

6.4.3. Of a directly comparable nature.

6.4.4. These three are being discussed in detail. But keep in mind the three key words: quantity, quality, comparability.

## 7. SECTION SEVEN: COLLECTED EXEMPLARS

7.1. All authors listed in the bibliography except two say that collected exemplars are preferable to requested exemplars, all other things being equal. Even when you are taking requested exemplars, still attempt to obtain the best collected exemplars you can. These will help alert you to disguise in the requested exemplars and will provide a broader range of the person's writing traits and habits of variation.

7.2. The question of the minimum and optimum amounts of exemplars needed for valid results has not been precisely defined. There are accepted guidelines, but these must yield to the realities of a given situation.

7.3. Some authors say 50 to 100 samples are a minimum ideal, these being done in various circumstances so as to reflect the entire range of the person's writing habits.

7.4. The nature of the questioned document will dictate the amount of exemplars needed.

7.4.1. A grossly poor forgery requires very little exemplar material, since the person is writing in the natural and usual style, with only the most obvious of disguises or imitations employed. Frankly, most cases fall within this type.

7.4.2. The person's genuine writing has very little individuality. Its most unique characteristic is that there is hardly any divergence from class characteristics. It could take a minimum of fifty exemplars to obtain sufficient points for either identification or non-identification.

7.4.3. The writer has two or more distinct styles of writing, as some persons with multiple personality disorders and similar problems have, as well as highly skilled and gifted penmen. A full set of exemplars in each distinct style would be desirable, and maybe even essential.

7.4.4. For a professional forger, the most extensive amount of comparison material would be needed. Even so, the best results one might hope for is simply to prove that the document is false.

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7.4.5. That last item brings up another point. Determine which of two questions are being investigated: (1) the purported maker did or did not make the writing; (2) the suspect individual(s) did or did not make the writing. Whose exemplars are to be collected is determined by which question is being addressed. If you are charged with the second but cannot make a determination you usually can determine the first quite easily, since exemplars in that case are most often quite readily available.

7.4.6. A careless or highly erratic writer has so extensive and unusual variations in virtually all factors, that greater amounts of material will be needed to show them all. But one must determine whether the person is careless all the time or only in specific instances, as in signing receipts, compiling personal notes or writing to a despised person.

7.4.7. The completely erratic writer will have virtually no underlying class characteristics. Thus the maximum amount of material is needed. In these cases, proof the person did not write a questioned document can be attained by showing an inability to be sufficiently skilled and disciplined in penmanship.

7.4.8. A nearly illiterate person usually writes so carefully and deliberately according to a set pattern that fewer exemplars are needed. Potential collected exemplars are probably rare, since the person would write only if absolutely necessary.

7.4.9. Since age related disabilities and some illnesses have a gradual onset and thus gradually alter the writing, exemplars over long periods of time might be needed to demonstrate the authenticity of two questioned writings which are separated in time and quite different in appearance.

7.5. In actual practice, one must usually settle for what is actually available. If you understand the ideal requirements, you will be able to explain precisely how precise your findings are and the kind of data further exemplars would be expected to yield. By addressing this and other problems head-on, you defuse possible points of attempted impeachment and show your candor to the Court.



### Exemplars: Samples for Comparison

7.6. Item 11.1 in the bibliography has the best list of sources for collected exemplars I have seen. I highly recommend that you obtain a copy of it. In particular circumstances be creative in ferreting out sources of exemplars according to the nature of the case and of the questioned document.

7.7. For signatures, usually the best source of exemplars is the county courthouse. Marriage, divorce, real estate, business, voting and court records often require a person's signature, and they are public records. Also license applications, building permits, property tax exemption applications, as well as candidate and referendum petitions will often be in the same or close-by building. Ask for certified copies, since by the rules of evidence such official copies are self-authenticating exhibits.



## 8. SECTION EIGHT: TAKING REQUESTED EXEMPLARS

8.1. As mentioned in the previous section, collected exemplars are to be considered preferable to requested ones. The major reasons for this are:

8.1.1. Writings in the normal course of social or business life are almost certain not to be deliberately disguised;

8.1.2. A much greater variety of materials is usually available;

8.1.3. Your investigation can proceed independently of all whose cooperation is needed to obtain requested exemplars;

8.1.4. If need be, the subject is not alerted that an examination is being conducted.

8.1.5. As indicated above, some collected exemplars are self-authenticating as court exhibits.

8.2. There are other points that make requested exemplars more preferable in given circumstances:

8.2.1. The specific type of writing, as a special manner of disguise, would only be available through requested exemplars;

8.2.2. The particular words or word combinations you need cannot be found in collected exemplars;

8.2.3. The person simply does not write or no writing is discoverable, as when exemplars subject to discovery are in another state or country;

8.2.4. The questioned writing was done under peculiar circumstances, which must be reproduced accurately to obtain truly comparable samples;

8.2.5. Time is a key factor, as when the person is on the witness stand denying authorship and an expert opinion is needed immediately. When such a person is under cross-examination on the stand, the lawyer first asks if the person possesses at that moment any writings which are not part of the case. Then the Court

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can be asked to order their production for comparison purposes. As a last resort, an order for compelled exemplars is requested.

8.3. To have the best of both worlds, when using requested exemplars endeavor to have collected exemplars adequate enough to demonstrate the person's natural range of variations as well as any elements of disguise or involuntary disturbances in the requested exemplars.

8.4. The procedure for taking requested exemplars is fairly well established in the literature. Every good author will have essentially the same instructions. Some will give special advice garnered through personal experience or applicable in special situations. The following is a compilation of the procedures given by articles in the bibliography, supplemented by other suggestions.

8.5. It is best to take requested exemplars during a deposition or examination under oath or other legal proceeding. That way the person is under penalty of perjury when attesting to the validity of the samples given. The entire proceeding would also be recorded by a shorthand reporter and reduced to a written record. The attorney would have to arrange such matters.

8.6. Always dictate the texts to be written.

8.6.1. With each separate text make the dictation a little bit faster in order to preempt attempts at disguise and to induce a more natural writing style.

8.6.2. By watching the person's writing movement you can learn to tell when the writing is as natural and spontaneous as circumstances will permit.

8.6.3. Interrupt the dictation at times, so that you can assess progress and that the person not tire.

8.6.4. See the discussion below on how to deal with suspected disguise.

8.7. Instructions to the writer beforehand cover the following points. Do not add any other instructions unless specifically required by the situation. Make an exact record of the instructions given.

### Exemplars: Samples for Comparison

8.7.1. Explain how you will proceed: you will dictate the text, each sample will be marked and removed before the next is given and so on.

8.7.2. The person is to write in the normal way unless explicitly asked to do otherwise.

8.7.3. At the start have the person write a statement that the exemplars are being given freely and voluntarily or pursuant to court order. In a criminal case, the person should add, "the material may be used against me." The person should then date and sign the statement, and you and any other witnesses sign it.

8.7.4. The person will initial or sign each sample before it is marked for identification and removed from sight.

8.7.5. Some authors suggest having a standard form for the writer to fill out before giving the actual exemplars. The form would be designed so as to have the person give name, address, etc., the statement in item 8.7.3 above, and other pertinent data. Though these things seem preliminary, they would constitute exemplars also. One intending to use disguise might not do so on the form, thinking the writing exemplars had not yet started.

8.8. Never give instructions on the following matters:

8.8.1. Spelling, grammar or "literary" aspects;

8.8.2. How to space or arrange the writing on the paper;

8.8.3. Nor on any other feature or style of writing, except where the exemplar must illustrate a given trait, as how the person block prints or would use the opposite hand.

8.9. The text to be dictated should have the qualities described below. Use two or more texts.

8.9.1. Although the situation of taking requested exemplars is necessarily not real world conditions, you want to simulate such conditions as closely as you

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can and be able to identify and counter influences of any unreal conditions. The text used is the primary tool for doing that.

8.9.2. The text should contain the exact text of the questioned writing at least once; this can be done so that it is not immediately obvious to the person that the exact text is being used.

8.9.3. It should include any doodles, envelope addressing or other unique features of the questioned writing.

8.9.4. If only signature exemplars are needed, use some text also. This both provides various contexts for the use of signatures, such as relevant forms and a pretended letter to mom, and breaks up signatures from being in a series. In the real world we never write signatures in a continuous series down a blank page, so such an exemplar is of scant value.

8.9.5. The text should carry words or names with similarity to the suspect signature. For example, for comparison with "Joe Blow", you could use a text having names like "Joe Jones" or "Bill Flowers", or words like "glow", "blown", "does" and "jowl".

8.9.6. Similarly, words in a questioned text, such as an anonymous letter, can be duplicated in the exemplar text by using literary tactics. Item 11.78 of the bibliography gives this example. If the anonymous letter uses "broad" meaning "woman", use homophones, other parts of speech or similar spellings: "a boat of broad beam", "room and board", "abroad", "broadened". These would be incorporated into an innocuously sounding text.

8.10. You must be able to recognize efforts at disguise in the requested exemplars and take proper remedial action. The examiner must determine if disguise is being used while making exemplars. The signs of disguise in writing have been treated extensively by many authors and verified by many original research projects.

8.11. However, if it is determined that disguise is being used in making the requested exemplars, avoid the

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temptation to conclude that the writer is guilty. The disguise should raise doubts in your mind, but never a judgement! Thus disguise is only grounds for suspicion; techniques should be employed to minimize or eliminate the disguise. Only a comparison giving positive and appropriate signs of similarity between exemplars and questioned writing can support a handwriting identification.

8.11.1. Continue the session, even lengthening the texts given, until the writing appears natural.

8.11.2. Endeavor to obtain samples at another session if you suspect disguise has been used. There is a good chance the writer will forget which method of disguise was used at the previous session. Either another method of disguise will be tried or the attempt may break down completely.

8.11.3. Another tactic is to instruct the person to try to use the disguise you suspect is being used and then ask that the "disguise" be used that you suspect is the natural style. Asking for even other methods of disguise might confuse the planned disguise so much that, when you ask that all disguise be dropped, it well might be!

8.11.4. Varying the speed of dictation, particularly increasing it, militates against disguise, since the person is not given time to deliberate.

8.11.5. Also the person's attention can often be diverted. The context of the dictated text can help do that. Disguise is possible only if the person concentrates solely on the mechanics of the writing.

8.11.6. While the person is writing, observe and make note of things like the following: the degree of fluency in the writing movement; how often the person hesitates, stops or picks up the pen; degree of tremor in the hand; the kind of pen pressure being used; relative movement in the fingers, wrist and arms; whether the person is switching from one writing system to another. As a handwriting expert, you should know how each of these fits in.

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8.11.7. Have collected exemplars on hand. By studying them ahead of time you will be able more easily to recognize any disguise or disturbance in the style. Confront the person with the collected exemplars and ask for use of the natural style.

8.11.8. One type of disguise is to switch use of genuine styles. For example, instead of signing as usual, one writes one's own name as one would write the names of others.

8.11.9. Finally, if disguise is definitely used by the writer of compelled exemplars, so that the very purpose of the court order is vitiated, the attorney must decide whether or not to bring contempt charges or pursue other avenues. In order to assist to the fullest, supply all the technical data on the disguise and the proof for it.

8.12. There may appear to be disguise when none is intended, or even when the person conscientiously strives to avoid it. Consider the following points.

8.12.1. Psychological factors in the situation of taking requested exemplars might influence the writer's manner. Nervousness has been mentioned. Guilt also was mentioned, along with the caution not to draw conclusions of guilt.

8.12.2. The innocent person who is anxious about being falsely accused might unconsciously alter the normal writing style.

8.12.3. A person might be so conscientious about giving you an honest sample of writing that the very deliberateness in doing so would result in an artificial script. The examiner must know the clues to artifice in handwriting, which are closely related to clues of disguise.

8.12.4. You must avoid unwittingly giving implied messages about what you are looking for. That is one reason why the person is never shown the questioned writing and why the examiner never gives an example of how to write or any instructions for specific features of the writing, unless such are the actual nature of



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the exemplars needed for valid comparison. For example, if a cooperative person thinks you really want to see a back slant, that is what you might get, the person not realizing it would impute guilt. Some people simply want to do what they can to please you, particularly when you are in a position of authority. Do not abuse your position.

8.12.5. The physical condition of the person may alter the writing in critical ways. Physical health has been demonstrated to have effects on handwriting in various ways, as does the use of alcohol and drugs. Simply being tired makes a difference. If you believe the person cannot give you valid comparison materials, you will have to make arrangements for another session or take what you can get while making careful and thorough notes of the problem.

8.12.6. If the person is to be questioned at the same session when exemplars are to be taken, exemplars should be done first. The questions may psychologically affect the writer and thus maybe the samples.

8.12.7. Easily influenced people often, readily and unconsciously imitate others' writing style. That is one reason why the person is never shown any handwriting at all. However, if you suspect the person is copying the style of others, you may need to test that possibility after the planned exemplars are completed.

8.13. Each exemplar must be properly identified.

8.13.1. As each sample is finished, have the writer initial it.

8.13.2. Turn it over and mark the back for identification and sign your name. You can obtain stickers pre-printed "EXHIBIT \_\_", with space for any needed writing such as your signature. You can identify the exhibits in order by starting with the numeral 1 or the letter A. If a machine shorthand reporter is recording the proceedings, it is that person's duty to mark all exhibits and make a complete record of them.

8.13.3. Keep a master list of each exemplar in the order of its making.

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8.14. The practical steps in actually taking the requested exemplars are as follows.

8.14.1. Have the person sit comfortably at a table. Even if special positions are to be used, samples in a normal position are needed to demonstrate the effect the special positions have on the person's style.

8.14.2. Match the writing instrument to that used in the questioned writing.

8.14.3. Use paper or, if applicable, a preprinted form that matches that of the questioned writing as to size, texture, color, coating or sizing, and any other pertinent feature. Blank, white, sized paper is the paper of choice, since it is best for photographing and copying. Also use it along with any special paper or forms needed to allow comparison with the regular writing style.

8.14.4. At the start, let the person use whatever style of writing he wishes.

8.14.5. With successive samples, instruct the person to use the opposite hand, adopt a particular slant and so on, as needed.

8.14.6. The session should go on till sufficient material is obtained; refer to the earlier discussion on what makes for an acceptable quantity of material.

8.14.7. The texts given should match in length and words the questioned writing, as discussed previously.

8.14.8. Dictate in rotation each text prepared beforehand, obtaining two or more copies of each.

8.14.9. Increase the speed slightly with each new dictation.

8.14.10. Watch for signs of attempted disguise and take appropriate remedial actions as discussed above.

8.14.11. Also watch for indications of undue nervousness, and put the person at ease as necessary.

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8.14.12. Observe the writer's attitude, posture, gestures, statements and other things that might indicate attitude, and make notation of these things relative to the sample being taken or instructions being given. You will want to prove insufficiencies in the exemplars which were caused by the person's obstructive behavior.

8.14.13. Some people have very strong reactions to particular papers or writing instruments which they dislike. By using a variety of these, you can discover if that is the case with the writer. By asking the writer to produce own paper and pen for some exemplars, you might get more evidence on this and other relevant matters.

8.15.. When the questioned writing is on a particular form, obtain that form or one as similar as possible for the requested exemplars. Here are ways to obtain forms.

8.15.1. In desperation you can make a copy of the questioned document, then white-out all the writing. Make the number of forms needed.

8.15.2. Stationer stores have many blank forms, as real estate contracts, blank checks, etc.

8.15.3. Law libraries have sets with legal forms, often sets in particular areas, as construction contractors law.

8.15.4. Someone in a special profession or business might supply needed forms. Start the search with the attorney and client for whom you are working.

8.15.5. Be sure to make a bold notation across the form that it is not a valid instrument. Otherwise, someone might fill in the form, making a forgery above a genuine signature.

8.15.6. If a court order is needed, the attorney uses sets of books giving forms of legal practice and pleading. However, the examiner should check these things out in a law library so as to have familiarity with all aspects of the work.



## 9. SECTION NINE: COMPARISON THEORY

9.1. Handwriting must have socially common elements for two reasons: to communicate with others it must have symbols recognizable by others and in common with their writing; each writer learns to write by imitating in some way models previously written by others. Even the self-taught writer must learn from imitating previously written models or printed styles. The latter were developed originally from written models.

9.2. Additionally other factors make for common traits in people's handwriting. The principal ones are imitation of the styles of people admired, association in a family, occupation or social grouping wherein the tendency is subconsciously to adopt group characteristics in writing, as is done in dress, speech and gait. The handwriting expert must be familiar with these and less common factors, some of which may influence the quality of requested exemplars.

9.3. The common elements, which make social communion and group identity possible, are modified by variables in each individual's writing. These variables make identification possible. Exemplars must be extensive enough to give a clear picture of the common elements, called class characteristics, and of the variables which create individual traits. It is also an individual trait that determines exactly which class characteristics are modified and the manner and degree of their modification.

9.4. Closely related to the variables mentioned above, are variations within the person's own range of traits. These variations are individualistic as to the feature of the writing which is varied, the manner of variation, the amount of variation and the pattern of variation. Again, exemplars should be extensive enough to demonstrate these variations in their full range. When two or more persons write virtually the same hand, only their habits in the most subtle and minute variations might be able to differentiate their writings.

9.5. The more extensive and complete the set of exemplars, the more likely it is that different examiners of competence and integrity will, working independently, arrive at the same conclusions.

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9.6. Identification theory requires that a combination of mutually independent traits be proven characteristic of the suspect item or person and that their combined, proven probability coalesce to a high probability or certainty. Therefore, do not draw conclusions from single, few or mutually dependent traits.

9.7. Examine all assumptions you employ, such as taking it for granted that the client really is telling all the truth about everything. We are often unaware of the assumptions we labor under. Do the data observed support these assumptions?

## 10. SECTION TEN: TYPEWRITING; OTHER MECHANICAL WRITING

10.1. The same basic principles apply to typewriting and other mechanically produced writings as apply to handwriting. The bibliography has references to some special cases. Here are the essential things to watch for.

10.2. These exemplars should be preceded by a thorough inspection of the suspect machine.

10.2.1. Record the make, model and serial number of the machine. This information is to be recorded on the back of each exemplar as it is made, being a part of that document's identification as an exhibit.

10.2.2. If the machine has a ribbon, inspect it in case it carries the text of the questioned document.

10.2.3. To protect evidence in the old ribbon, you might want to use one just like it.

10.2.4. If for any reason the machine is not operable, a competent, skilled technician should be consulted to determine exactly what the problem is. Do not overstep the boundaries of your expertise.

10.2.5. Ascertain where the machine is kept, who has access to it, who normally uses it, and what logs there are of its use.

10.2.6. Inspect available records of the history of the purchase, usage and repair of the machine. When a machine has been serviced or repaired, the documents produced on it will have some differences as of that time. Knowing precisely which repairs were made when and by whom can help date any document produced on the machine. It can also preempt a false defense. For example, if the typed document has a damaged small r but the suspect machine does not, repair records may indicate a replacement of damaged type.

10.3. Taking typed exemplars must be as thorough and redundant as requested handwriting exemplars.

10.3.1. Use various degrees of touch, taking a complete set of exemplars with light, moderate and heavy touch.

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10.3.2. Whether or not it is a question of carbon copies, take a complete set of carbon copies. A document may be an original copy, but characteristics of a given typewriter change when carbons are inserted with an original. For the same reason, even when typing without carbons, make a set of exemplars both with and without a backing sheet.

10.3.3. Some writers suggest putting the typewriter on "STENCIL" when making carbon exemplars. However, whether or not the machine is typing through the ribbon will make a difference in the impression. And who types carbons on "STENCIL"? Additionally, doing that would mean there is not an original to compare with the associated carbon.

10.3.4. Keep the original and its carbon together and identify them as such.

10.3.5. Type all the characters across each entire line in sequence, first lower case and then in locked shift.

10.3.6. Take at least two copies of each exemplar: that is, two entire key boards in light touch; then two in moderate touch, and so on. Do the same for the questioned text, employing the exact same arrangement, typos, literary peculiarities and line units as in the questioned text.

10.3.7. If you lack the requisite typing skill to make valid exemplars, either turn the examination over to someone who has the skill or find an associate who can do the typing and be available if needed for testimony. If you do use another person as the typist, maintain full supervision of every operation and make a careful record of all instructions you give.

10.4. Since typists can be identified by their work product, have the suspected typist(s) make a set of exemplars. You would compose texts as you would for handwriting exemplars and observe the same procedures. You would also collect typed exemplars by each suspect which were made prior to the case or completely unrelated to it.



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10.5. There are many special considerations with respect to electronic printers.

10.5.1. Printers, such as laser printers, are capable of producing an unlimited number of type styles. One merely has to download the new font into the printer and have the computer send the requisite command. The various typestyles can also be easily deprogramed. Some machines can be cartridge loaded as well. Therefore, a particular style of type in no way proves or disproves a particular laser or electronic printer was used.

10.5.2. Since there is no mechanical imprint of the writing, there can be no evidence of mechanical damage to the type. Identifying characteristics for individual printers, it seems to me, must come from improper maintenance or similar defects.

10.5.3. On the other hand, class characteristics can identify the kind of machine used. That can serve as circumstantial evidence pointing to a particular machine. It can also definitely eliminate machines without such class characteristics.

10.5.4. In my research in compiling the extensive coverage of WITNESSING TO THE TRUTH OF DOCUMENTS, I never came across any discussion specifically on collecting exemplars from electronic printers. Nor did I find any on identifying specific machines. That does not mean the information does not exist, but it is definitely not readily available.

10.5.5. WITNESSING TO THE TRUTH OF DOCUMENTS also has entries for special machines such as check protectors. These articles usually discuss special twists in making exemplars.

10.5.6. As mentioned relative to handwriting, the extensive procedure suggested in this section may be either not needed or simply not possible. You should note any limitations that would place on the certainty of your conclusions or the reasons why it would be inapplicable in the instant case. In that way you would be prepared if the cross-examiner attempted to impeach your opinion.



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11.58. JOURNAL OF FORENSIC SCIENCES. 31:710-8, April 1986.

The comparison of modern typestyles. By Arthur T. Anthony.

11.59. JOURNAL OF FORENSIC SCIENCES. 32:963-74, July 1987.

Image processing and statistical analysis as an aid in the comparison of typewritten impressions. By Michael G. Noblett.

11.60. JOURNAL OF POLICE SCIENCE AND ADMINISTRATION. 3:259-66, Sept. 1975.

Role of check protector identification in law enforcement and comparison problems. By James T. Miller. (Extensive instructions on obtaining exemplars.)

Exemplars: Samples for Comparison

11.61. JOURNAL OF POLICE SCIENCE AND ADMINISTRATION. 5:393-8, Dec. 1977.

Explainable differences revealed by supplementary typewriting standards. By Paul S. Osborn. (An object lesson in not drawing final conclusions too soon.)

11.62. JOURNAL OF POLICE SCIENCE AND ADMINISTRATION. 6:419-23, 1978.

Intentional disguise in court-ordered handwriting specimens. By E. F. Alford, Jr. and Ronald M. Dick. (The authors stress that the examiner must be cautious in saying disguise was used in court ordered exemplars, since person is subject to contempt charges.)

11.63. LAW JOURNAL. (LONDON). 11:673-4, November 25, 1876.

Comparison of handwriting. (Editorial subscribing to old rule of denying admission to demonstrative evidence from the document examiner.)

11.64. LAW TIMES. (LONDON). 101:467-9, September 19, 1896.

Proof by comparison of handwriting. By John H. Wigmore. (Same as item 11.7.)

11.65. LEGAL OBSERVER; OR JOURNAL OF JURISPRUDENCE. (LONDON). 13:283-4, Feb. 11, 1836.

On evidence of handwriting by comparison. (This and the next item of interest if doing historical research.)

11.66. LEGAL OBSERVER; OR JOURNAL OF JURISPRUDENCE. (LONDON). 15:227, Jan. 27, 1838.

On evidence of handwriting by comparison.

11.67. MARQUETTE LAW REVIEW. 13:129-49, April 1929.

The use of extraneous or unproved writing in cross-examination in questioned document cases with some discussions By Edward W. Spencer. (It has historical value, standing between the old and new rules on admissibility of samples solely for comparison purposes, still it has some practical points useful for us today.)

11.68. MARQUETTE LAW REVIEW. 20:167-84, June 1936.

Battle of the standards. By Edward W. Spencer. (Primarily case law as of that time, but has some useful information for current practitioner.)

## Studies in Document Examination

11.69. MEDICINE, SCIENCE AND THE LAW. 13:166-84, July 1973.

Classification and measurements in forensic handwriting comparisons. By P. G. Baxter. (An extensive and informative discussion.)

11.70. MICHIGAN LAW JOURNAL. 2:16-23, Jan. 1893.

Comparison of handwriting in respect to peculiarities of orthography. By John B. Clayberg. (Rules on admissibility of exemplars and of handwriting expert testimony as of that time.)

11.71. MICHIGAN LAW REVIEW. 23:182-3, Dec. 1924.

Comparison of handwritings. [Adams v. Ristine (Va.) 122 SE 126] (Case note.)

11.72. NAVAL LAW REVIEW. 34:185-99, 1985.

Handwriting exemplars. By K. A. Krantz. (Focusses on criminal cases. Discusses methods of disguise and their detection. Disguise in giving exemplars can backfire and refusal to give the court ordered exemplars is contempt. Such a person may lose other legal advantages.)

11.73. NEW YORK LAW JOURNAL. 183:1, col. 3, Jan. 16, 1980.

Appellate division defines rule on handwriting sample. By Ruth Hochberger. (Case note.)

11.74. NORTHERN KENTUCKY LAW REVIEW. 8:175-93, 1981.

Federal taxation; summons; absent specific statutory authority, the Internal Revenue Service can compel handwriting exemplars. (It seems that you would not have any legal arguments on your side, if the IRS ordered you to write for them.)

11.75. OREGON LAW REVIEW. 41:154-9, Feb. 1962.

Evidence: handwriting samples treated as genuine. By Fairy Gardner. (Discussion of Oregon law.)

11.76. PENNSYLVANIA. UNIVERSITY. LAW REVIEW. 104: 64-78, March 1956.

Authentication of disputed documents by comparison: the expert witness. (Legal requirements as of that date, which seems to be substantially the current rules.)

### Exemplars: Samples for Comparison

11.77. PHILIPPINE LAW JOURNAL. 21:71-3, August 1941.

May a defendant be compelled to give a specimen of his handwriting? By Cesar B. Londres. (The Philippine Constitution protects against compelled exemplars, viewing them as testimony by their very nature, since writing is a mental function. Once the accused voluntarily takes the stand, he can be compelled to give exemplars.)

11.78. POLICE LAW QUARTERLY. 5:5-11, July 1976.

Recovering physical evidence from reluctant accused. By Nicholas J. Motherway. (Good general overview for officers of the law.)

11.79. POLICE LAW QUARTERLY. 5:31-8, July 1976.

Obtaining document standards for comparison. By David J. Purtell. (Brief, practical advice for law officers in the field and of great value to the document examiner. "In nearly all white collar crime, a document is the instrument by which the proceeds of a crime are conveyed.")

11.80. PRACTICAL LAWYER. 6:39-56, Jan. 1960.

Suspicious documents. By Winsor C. Moore. (He gives ideas on collecting handwriting exemplars, giving types of collected exemplars and locations where amounts might be found. His checklists for investigating document problems is a good idea for compiling your own tickler file of things to look for systematically.)

11.81. ST. MARY'S LAW JOURNAL. 5:169-76, Spring 1973.

Handwriting exemplars; the accused may be compelled to provide handwriting exemplars, voice, blood, and urine samples without violating the constitutional safeguards against self-incrimination. By David Brian Armbrust. (Contrary to item 11.85, he argues that the Texas Constitution offers no more protection against compelled exemplars than the U.S. Constitution.)

11.82. SEARCH AND SEIZURE BULLETIN. 1981:8, March 1981.

Handwriting sample. (Case citations)

11.83. TAXATION. 52:290-2, May 1980.

Internal Revenue Service: power to summons handwriting; analyzing the Supreme Court's Enge decision. [U.S. v. Enge, 100 S.Ct. 874] By John M. Bray and David J. Curtin. (Refer to NORTHERN KENTUCKY LAW REVIEW article.)

## Studies in Document Examination

11.84. TEXAS LAW REVIEW. 1:224-9, Feb. 1923.

Handwriting: extraneous writing as a standard of comparison. [Campbell v. Campbell, 215 S. W. 134] [Texas State Bank of Fort Worth v. Scott, 225 S. W. 571] By Harold K. Stanard. (At that time Texas had not joined the modern practice on the admissibility of handwriting exemplars, but the author favored such. The three reasons for the old practice were: (1) exemplars might be chosen unfairly, (2) collateral issues would be raised, and (3) jurors mostly could not read or write anyway.)

11.85. TEXAS LAW REVIEW. 21:816-9, June 1943.

Evidence. Self-incrimination. Involuntary confession. Compelling defendant to repeat words heard at scene of crime. (Cites Kennison v. State, where Texas Criminal Appeals Court held that under Texas Constitution compelling the accused to give handwriting exemplars was equivalent to obtaining involuntary confession.)

11.86. UNITED STATES LAW REVIEW. 69:60-8, Feb. 1935.

Request writings and their use as standards of comparison. (Refer to more recent articles.)

11.87. UTAH LAW REVIEW. 1981:447-55, 1981.

Expansion of the privilege against self-incrimination to unknown limits. [Hansen v. Owens (Utah) 619 P2d 315] (The author argues against the Utah Supreme Court which said compelled exemplars were tantamount to defendant's admitting or denying he made the forged instruments.)

11.88. VANDERBILT LAW REVIEW. 10:485-511, 1957.

Voice identification, writing exemplars and the privilege against self-incrimination. Russell J. Weintraub. (Discusses the historical situations giving rise to protection against compelled testimony against self. Argues that compelled written exemplars are substantially the same: an implied statement that the written exemplar is valid for the prosecutor's needs versus being subject to contempt proceedings for not complying.)

11.89. VANDERBILT LAW REVIEW. 11:935-8, June 1958.

Evidence; witnesses. Cross-examination of handwriting expert with specimens not already in evidence. (Case law with some historical background.)

Exemplars: Samples for Comparison

11.90. VIRGINIA LAW REGISTER. NEW SERIES. 5:78-80, May 1919.

Comparison of handwriting by jury. Kleister's examiners v. Philips' examiners. (Virginia adopts the modern practice that the jury can be given comparison material via an expert if genuineness is established beforehand. The old practice was based on a British case where Judge Jefferies in 1683 "permitted such evidence to go before the jury, but the papers submitted were outrageous forgeries." Mr. Justice Coleridge of the King's Bench "definitely formulated the erroneous rule in the case of Doe, Mudd v. Lockermore (5 Ad. & El. 705) and the stream of justice may be said to have become 'muddied' from that time.")

11.91. YALE LAW REVIEW. 30:524-5, March 1921.

Comparison of handwritings; admissibility of specimens conceded to be genuine for purposes of comparison. [Texas State Bank of Ft. Worth v. Scott (1920, Tex.) 225 S.W. 571] (Also touches on testing the expert witness with samples of questionable quality.)

11.92. YALE LAW REVIEW. 33:205, Dec. 1923.

Comparison of handwritings; admissibility of relevant handwriting when prejudicial. [State v. Lyle (S.C.) 118 SE 803]





## 12. SECTION TWELVE: REPRINTS, FBI LAW ENFORCEMENT BLTN.

12.1. I wish to acknowledge the phone response to my letter to THE FBI LAW ENFORCEMENT BULLETIN, inquiring about reprinting the following articles. That was one of the most prompt and courteous replies I ever received to correspondence.

12.2. WITNESSING TO THE TRUTH OF DOCUMENTS indexes many excellent articles in the BULLETIN, which are of interest to the document examiner. Many articles on the subject were not indexed, since they were concerned solely with instructions on using FBI law enforcement assistance programs.

12.3. The following articles are herewith reprinted. Their quality and usefulness, in my opinion, rank with that from other professional publications.

12.3.1. FBI LAW ENFORCEMENT BULLETIN. 30:12-17, July 1961.

Correctly obtaining known samples aids document examiner.

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12.3.2. FBI LAW ENFORCEMENT BULLETIN. 34:18-21, Feb. 1965.

London business letter; its limitations.

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12.3.3. FBI LAW ENFORCEMENT BULLETIN. 48:5-8, Oct. 1979.

The Process of handwriting comparisons. By Joseph A. Fancialli.

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12.3.4. FBI LAW ENFORCEMENT BULLETIN. 50:22-5, June 1981.

Examination of a typewritten document. By David W. Attenberger and W. Gary Kanaskie.

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## ***Correctly Obtaining Known Samples Aids Document Examiner***

No two writings of one individual are exactly the same. It is up to the document examiner to account for all variations in the questioned and known writings before he can place the proper significance on what appear to be similarities in handwriting characteristics. The variations which appear in the known and questioned documents are caused by differences in writing conditions, in the speed at which the writing was accomplished, in the materials used, in the mental attitude of the writer or his physical condition, the motive for the writing, etc.

Most investigators are cognizant of the fact that the document examiner cannot usually examine one and only one genuine signature of a suspect and determine by comparison whether that suspect wrote a questioned document which may contain either a signature wholly different in spelling from the known standard or which may comprise several pages of writing. Rarely is it possible for a document examiner to reach a definite conclusion under such circumstances. However, it is sometimes possible, under certain circumstances, for an examiner to compare a limited amount of known writing with a large amount of questioned writing and reach a definite conclusion. Then again, under certain circumstances, it is possible that an examiner may have available a large quantity of known handwriting for comparison with a small quantity of questioned writing and not be able to reach a definite conclusion. These and other situations may be caused by various factors, such as whether or not disguise is present in either the known standards or questioned writing, or both; whether the known and questioned writings are comparable in letter and word combinations; whether the writings were prepared under the same relative conditions; whether or not they were both written at approximately the same time; etc.

A large number of examinations of evidence in the FBI Laboratory are conducted in connection with documentary evidence. Frequently, pertinent evidentiary items are forged or otherwise fraudulent checks, deeds and wills, anonymous letters, and documents of a similar nature. Ex-

aminations are usually made of a document to determine the identity of the person who prepared it or to determine if the document is genuine.

All too often the document examiner is confronted with poor known handwriting or handprinting standards, sometimes because only a limited amount of known writing is available, although in many instances it is due to a lack of understanding of what is needed by the document examiner for the examination. At times, these standards are so inadequate that the examiner is not able to either eliminate or identify the suspect.

Frequently, the solution of an entire case may hinge on the results of the document examination, and for the purpose of securing more uniform standards of writing, the following instructions and suggestions concerning the obtaining of such known standards are presented.

### ***Original Document Best***

Whenever possible, the original questioned documents and original documents bearing writing of known origin should be transmitted to the FBI Laboratory for examination inasmuch as the original documents are far more suitable for examination than photographic copies or Photostats. This is especially true in altered writing and suspected forgery cases, since alterations and line quality (touching up of the writing, retracing, etc.) are usually not apparent from an examination of Photostats or photographs. The original questioned documents are almost always necessary for comparisons between known and questioned typewriter or checkwriter impressions. If for some reason the original document is not available, the next best evidence is a photograph of the original document. If neither the original nor a photograph is available, then the next best evidence is a Photostat (fig. 1). When Photostats or photographs are submitted, a scale should be shown in the photograph or Photostat.

### ***Obtaining Known Standards***

The ideal known handwriting standards are those containing the wording of the questioned material written by the suspect from dictation. These standards should be written on the same or similar paper, card, check form, etc., with the same type of pencil, pen, or other writing instrument and confined to relatively the same space as the questioned writing.

It is realized that frequently it is difficult to satisfy all of these requirements, but attempts should be made by the investigator to meet as many as possible. In any event, the more known standards obtained for comparison, the greater the possibility of a definite opinion by the document examiner.

Request writings should always be made from dictation. If it is not considered advisable for the investigator to dictate the wording of the questioned documents because he does not desire the suspect to know he is under suspicion, or for some other reason, he should prepare in advance subject matter which will include as many as possible of the words and phrases used in the questioned documents, in order that the known standards will be comparable in letter and word combinations with the questioned writing. It is most important that, wherever possible, the wording of the questioned writing be used in obtaining specimens of the suspect's handwriting.

Under no circumstances should a suspect be allowed to see or copy the questioned writing as he may later claim he attempted to copy the material given to him and thereby was prevented from inserting into his writing his normal habitual handwriting characteristics.

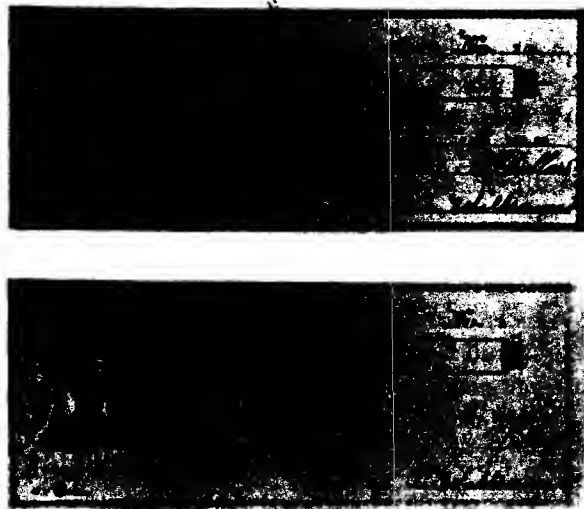
In reconstructing the conditions under which the questioned document was written, the investigator should select paper of a similar size, color,

and texture and procure similar writing instruments to the degree possible. He should also cause the suspect to write slowly or rapidly, use script or hand printing, use the right or left hand, scribble, or otherwise disguise his normal writing in accordance with the investigator's judgment of the conditions under which the questioned documents were written. In the beginning, no suggestions should be given to the suspect when he starts writing the dictated specimens, and he should be allowed to prepare the writing in his own way. The dictation of the questioned material should include words only. No punctuation, spelling, spacing, or other information should be suggested to the writer, thus allowing the examiner to consider the writer's manner of spelling, capitalization, punctuation, and spacing in conjunction with his handwriting characteristics. All of these points are important to the examiner.

When sufficient specimens have been obtained in this manner, various suggestions or instructions may be given to the suspect.

The letter transmitting these known standards to the document examiner should include information as to the suggestions made to the suspect by the investigator and on the attitude and actions of the suspect at the time these suggestions or instructions were given to him. The standards should be properly identified by the investigator to reflect those obtained without instructions and those obtained after various instructions were given by the investigator.

It must be borne in mind that if a suspect is actually guilty he will frequently attempt to disguise his handwriting. It is therefore essential that numerous specimens of his writing be obtained since it is relatively easy for many individuals to disguise a limited amount of writing. Ordinarily when a number of specimens are written, the suspect, in the course of the writing, will often unconsciously include his inconspicuous personal writing habits. It is for this reason that the investigator should not stop when one page has been written by the suspect but should obtain a number of pages written one immediately after the other and each removed from the vision of the writer as soon as it is completed. If the investigator believes that an attempt is being made to disguise the known standards, he may deem it advisable to obtain additional standards at a later date on the theory that the suspect may forget how he disguised his writing when the first samples were obtained.



*Figure 1.—For the document examiner's purposes, the original evidence is best, but a photograph of evidence (top) is next best and far more valuable than a Photostat (bottom).*

As has been previously stated, it is not always possible or expedient to obtain dictated standards because it may not be desirable under some circumstances for the suspect to know he is under suspicion, the suspect may not be physically available to give standards, or on some occasions the suspect may refuse to furnish known handwriting standards to the investigator. Under these circumstances, and others which may arise from time to time, it is often possible to locate normal standards of the suspect's handwriting by contacting his friends and relatives in an effort to obtain correspondence received from him, by contacting banks for canceled genuine checks written by the suspect, checking with credit houses for applications made for credit, reviewing the motor vehicle bureau's files for auto license and car registration applications, contacting present and past employers for business papers, and by contacting schools for themes and other papers written while the suspect was in school or college. When standards of this type are obtained, attempts should be made to obtain those written at approximately the same time as the questioned writing, since an individual's writing habits often change with the passing of time. Standards of this type, of course, are not as desirable as dictated standards; however, they are often sufficient for a definite conclusion to be reached by the document examiner.

### Obtaining Checkwritings

Most of the material set forth in the preceding section is applicable to the obtaining of standards for comparison with fraudulent checks. It, of course, is desirable in fraudulent check cases for the suspect to write on blank check forms similar to those used for the questioned checks (figs. 2 and 3). The suspect should not be allowed to see

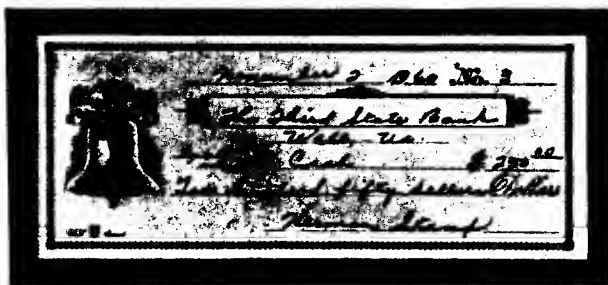


Figure 2.—In this case, the questioned document is a check, and the investigator should obtain similar blank checks on which to obtain handwriting samples from the suspect, as indicated in figure 3.

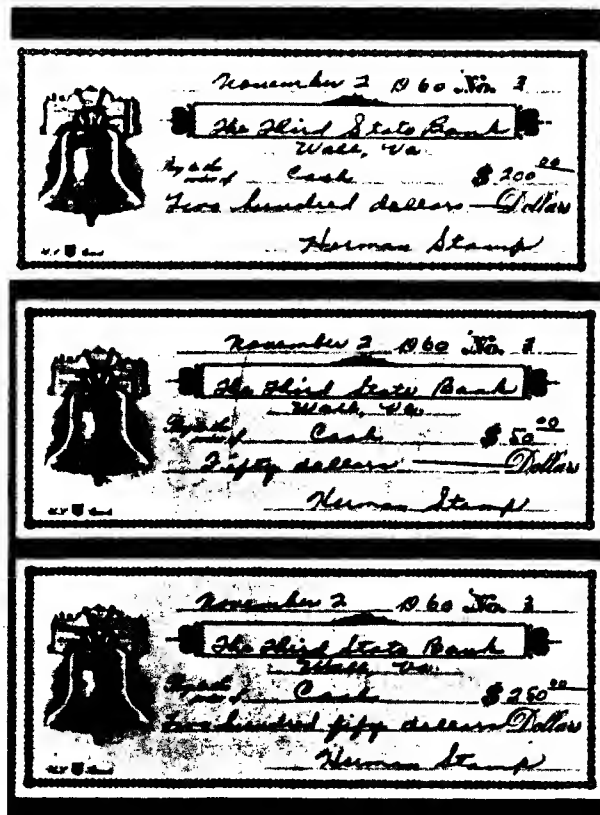


Figure 3.—A series of handwriting samples on the same type of check as the one in figure 2 makes the document examiner's job easier.

the questioned checks at any time and no instructions should be given to him concerning the manner in which the checks should be filled out. The contents of the questioned checks should be dictated to the suspect, and he should be allowed to place the writing on the check form in the manner to which he is ordinarily accustomed. After he has prepared a sufficient number of these standards on blank check forms without instructions, the investigator should request the suspect to include characteristics in his samples observed to be present in the questioned writing such as the fact that it may have been written with a backhand motion or written rapidly or slowly.

It should be remembered that as soon as the face and endorsement on the check form are completed, the specimen should be removed from the sight of the writer before any attempts are made to obtain additional writing.

In addition to dictated standards, it is often desirable for attempts to be made to obtain genuine canceled checks written by the suspect prior to the time he was under suspicion.

It is always desirable and usually necessary to obtain known handwriting or signatures of the victim in a forgery case in addition to the known handwriting or signatures of suspects. These known standards of the victim should be documents which were written at approximately the same time as the questioned document and should be several in number. Any information available to the investigator concerning any serious illness which would affect the handwriting of the victim should also be furnished to the document examiner at the time the evidence is transmitted to the FBI Laboratory.

In cases involving good forgeries, it may not be possible for a document examiner to determine who forged the document because many of the forger's individual handwriting characteristics are discarded in the forging process. However, it usually will be possible for him to determine whether or not the questioned document is in fact a forgery. It is desirable therefore to obtain handwriting standards from any suspect. These standards should be in the same wording as the questioned writing and should be obtained in the manner described in the preceding sections.

### ***Obtaining Typewriter Data***

When obtaining standards from a suspected typewriter, it is not necessarily sufficient that merely impressions of all the characters on the machine be submitted for comparison. The standards obtained from the known typewriter should include as many as possible of the words and characters which appear on the questioned writing, as it is from the various combinations of letters that the examiner is often able to find points of similarity or dissimilarity. Whenever practicable, the questioned writing should be typed in its entirety several times on the suspected typewriter, using varying degrees of touch in obtaining the standards.

It is also of assistance if a carbon specimen is obtained (fig. 4). This carbon specimen should be made as follows: First, the ribbon should be removed from the typewriter or the typewriter ribbon adjustment should be placed in "stencil" position; then two pieces of paper with a sheet of carbon paper on the outside of the first sheet should be inserted in the typewriter so that the keys of the machine will strike directly on the sheet of carbon paper and leave a carbon impression on the first sheet of paper. Carbon



**Figure 4.—Method of obtaining a carbon specimen from a suspect's typewriter.**

standards should *not* be obtained in the usual manner of making a carbon copy by inserting the carbon between the two sheets of paper unless the questioned writing was a carbon copy. In this event, the usual typewriter standards should also be submitted as well as carbon copy standards. In addition to the standards mentioned above, it is often desirable to type each character appearing on the suspected machine with varying degrees of speed and pressure allowing each character a complete line from one side of the paper to the other.

The investigator should not overlook the possibility that the typewriter ribbon may not have been changed since the questioned document was prepared and that the ribbon may contain impressions of some or all of the questioned writing. Some typewriters are equipped with a carbon-paper type of ribbon which is used only once and then discarded. The questioned material could conceivably be found in its entirety on this type of ribbon. In such instances, the ribbon should be removed from the typewriter and transmitted to the FBI Laboratory.

At times the typewriter may not be in an operating condition due to some irregularity or broken part. Before anything is done to the typewriter, it is desirable that the trouble be described in a letter to the FBI Laboratory and advice requested as to how the machine should be handled. It may even be necessary in some cases to transmit the typewriter to the FBI Laboratory for examination; however, it is preferred this not be done unless advice is received to do so.

Typewriter standards obtained in the manner set forth above should carry the notation on each sheet as to the make, model, and serial number of the typewriter, and should be signed and dated by the investigator obtaining the standards.

### ***Checkwriters Checked***

The first step in obtaining known standards from a checkwriter is to locate and use paper similar to that used for the questioned documents. Numerous standards should be obtained from the checkwriter, using the amounts appearing on all of the questioned checks or drafts. Each of the various amounts used on the questioned checks or drafts should be obtained employing various speeds and pressure. There should never be any adjustments made, and the machine should not be inked before standards are obtained. If the machine has not been used for a considerable period of time and the ribbon or inking device is dry, standards should first be obtained before any ink is applied to the inking device. After appropriate standards are obtained in this manner, then ink may be applied and additional standards obtained using various degrees of pressure in each case.

If the machine has some irregularity that prevents normal operation or is broken, it would be well to consult the FBI Laboratory before any attempt is made to obtain specimens. In some cases it may be necessary to transmit the checkwriter to the FBI Laboratory.

Checkwriter standards should always carry the notation on each sheet as to the make, model, and serial number of the machine, and should be signed and dated by the investigator obtaining the standards.

### ***Rubber Stamp Impressions***

Whenever the investigator encounters a case involving the use of rubber stamps, it is desirable that any suspected rubber stamp sets, rubber stamps, and pads be transmitted to the FBI Laboratory for examination and comparison. This is primarily due to the fact that any defects appearing in the rubber stamp often are not recognizable because of variations in pressure used in applying it to paper. Any rubber stamps located which are composed of individual letters should not be disassembled or changed in any way.

If it is not possible to transmit the actual rubber stamp, stamp set, or pad to the FBI Labo-

ratory, the investigator should obtain a large number of specimens using the same wording as the questioned rubber stamp impressions and employ various degrees of pressure. Paper used for these standards should be similar in texture to the paper used for the questioned document.

### ***Proper Marking of Standards***

One of the recognized methods for identifying known standards obtained from a suspect is to have the writer sign his name or place his initials on each sheet of known handwriting standards with a statement regarding the voluntary nature of the action; i.e., "This specimen of my normal writing is given freely and voluntarily and may be used against me." Such a notation should appear on at least one of the standards. Each page should be witnessed on the back by the investigator who obtained the standard. Under most circumstances, writing, other than that of the suspect, is not placed on the face of the sheet. The foregoing, of course, pertains only to those cases where dictated standards are obtained.

When normal undictated handwriting standards consisting of personal letters and the like are submitted, it is essential that information be given regarding the name of the individual who can definitely identify the writer of the standard. This will facilitate subsequent introduction in court.

### ***Transmittal to FBI Lab***

Information concerning the manner in which the standards were obtained from the suspect, the mental attitude of the suspect at the time of writing, whether or not the suspect was cooperative in the giving of these standards, just which standards were obtained first, and what instructions were given for the remainder of the standards are all pertinent to the examination. Such information will be helpful if included in the letter transmitting the evidence to the FBI Laboratory.

The letter should also include the exact type of examination which is desired and should also definitely mention which documents submitted are questioned and which may be treated as known standards. The identity of the writer or writers of the known standards should always be included. A statement should be included as to whether or not the questioned specimens submitted should be treated for latent fingerprints (fig. 5).

CENTERTOWN POLICE DEPARTMENT  
CENTERTOWN, VIRGINIA

L. M. Law  
Chief

February 8, 1961

Mr. J. Edgar Hoover, Director  
Federal Bureau of Investigation  
Washington 25, D. C.

Attention: FBI Laboratory

Re Unknown Subject -  
Wilbur Glass,  
Alleged Forgery  
Case # C-173

My dear Mr. Hoover:

Enclosed herewith for examination is the evidence described below:

Item 1. Check dated 1/17/61, in amount of \$235.17, payable to Wilbur Glass, signed Homer J. Wilson and drawn on the First National Bank, Centertown, Virginia.

Item 2. Four genuine checks bearing known signatures of Homer J. Wilson, a prominent merchant in our city.

Item 3. Six check forms bearing dictated known handwriting specimens of Frank P. Jackson, a suspect. The reverse side of each check form contains a notation as to the instructions given to the suspect for that sample.

On January 18, 1961, Item 1 was passed at a local department store by a white male, 35 to 40 years of age, blond hair, 6 feet tall, and weighing approximately 200 pounds. He used a Virginia driver's license for identification.

It is requested that the questioned check, Item 1, be searched through the National Fraudulent Check File and that the signature thereon be compared with the known signatures of Homer J. Wilson, Item 2. The questioned handwriting on the check should also be compared with the known handwriting of the suspect Frank P. Jackson on Item 3. In the event it is determined that Jackson did not write the check, please compare the endorsement on Item 1 with signatures on fingerprint cards of individuals using Wilbur Glass as a name or alias. It is also requested that Item 1 be treated for the presence of latent fingerprints.

This evidence is submitted in connection with a criminal matter. The evidence has not been examined by any other expert, nor will it be submitted to any other expert in the same technical field.

Very truly yours,

L. M. Law

**Figure 5.—Sample letter showing proper method for requesting various FBI Laboratory examinations, including a document examination.**

If a comparison is desired with signatures on fingerprint cards of individuals having names or aliases similar to those appearing on the questioned evidence, that request should be set forth, and a description of the subject should be included if it is available.

Evidence submitted to the FBI Laboratory should always be transmitted by registered mail to "Director, Federal Bureau of Investigation, Washington 25, D.C., Attention: FBI Laboratory."

In criminal cases, the FBI Laboratory will furnish expert testimony to law enforcement agencies which have submitted material for examination, provided no other expert in the same scientific field will be used by the prosecution. This testimony, as well as the examination in the FBI Laboratory, is provided at no cost to the contributing agency. When expert testimony is desired, it is requested that the FBI Laboratory be notified as far in advance as possible in order that the examiner may arrange his other commitments and prepare the necessary photographic enlargements to explain his conclusions.

## Bad-Check Passer Meets the FBI

For 9 months, the busy little man had blithely and briskly gone his way passing bad checks, first in one bank and then another, believing he was "getting away with it" until confronted by Agents of the FBI. Then visibly wilting, he dejectedly commented, "Nobody knew what I was doing except J. Edgar Hoover, and apparently he knew everything."

Investigation disclosed that banks in the Los Angeles area had been victimized in some 81 known instances wherein forged checks were successfully cashed by a slightly built man about 48 years of age, marked by a flesh-colored mole on his left cheek near the nose, and wearing dark glasses. It was estimated he defrauded the banks of about \$11,750 from August 1959 to May 1960.

The modus operandi of this thief was simple, daring, and effective. He would enter the bank in a brisk, friendly manner, present two phony checks, one for \$100 and the other for \$50, and a \$20 bill, along with a handwritten list of change which he would request the teller to give him in exchange for the checks and the currency, indicating exactly how he wanted the change. He would then display a white cloth bag in which he would carry the silver from the bank, explaining that the change was for the owner of a nearby bar.

Each check he presented was drawn to cash and bore the false endorsements of bars or cocktail lounges located near the bank being victimized.

In five instances, the teller stepped away from the window in order to verify the signature cards of the checks presented before releasing the silver and currency. Knowing the teller would find the checks to be phony, the subject reached across the counter, seized the money not yet released to him, stuffed it in the cloth bag, and hastily made his exit from the premises.

Investigation revealed that in only one instance was a genuine check presented by this individual, and this check with a bogus one presented at the same time eventually led to his identification. The genuine check was passed in early May 1960 and was soon to lead to the apprehension by FBI Agents of the little man with the mole on his cheek.

He was sentenced to a term of 5 years in custody of the Attorney General for the interstate transportation of stolen property and bank larceny.



## HANDWRITING SAMPLES

# *The "London Business Letter"— Its Limitations*

THE SO-CALLED "LONDON BUSINESS LETTER" is frequently used by law enforcement agencies as a paragraph of text material for obtaining dictated known handwriting samples. Variations of the text may appear from time to time, but the most frequently used version is that given in the book entitled "Questioned Documents" by Albert S. Osborn, which is as follows:

"Our London business is good, but Vienna and Berlin are quiet. Mr. D. Lloyd has gone to Switzerland and I hope for good news. He will be there for a week at 1496 Zermott St. and then goes to Turin and Rome and will join Col. Parry and arrive at Athens, Greece, Nov. 27th or Dec. 2d. Letters there should be addressed: King James Blvd. 3580. We expect Chas. E. Fuller Tuesday. Dr. L. McQuaid and Robt. Unger, Esq., left on the 'Y.X.' Express tonight."

This paragraph contains all the letters of the alphabet, both upper- and lower-case, plus all the numerals and some abbreviations of words in common usage. It was designed for use in obtaining known handwriting samples from a suspect without arousing his suspicion and without disclosing to him their ultimate purpose. Its proponents claim that if written three or four times, it should furnish an excellent basis for a handwriting comparison with almost any kind of questioned writing.

Some police agencies use, instead, a list of a dozen or more names of persons and places containing all the letters of the alphabet and request the suspect to write them out in his normal handwriting. Either of these may be satisfactory if intended primarily for future reference, but both methods leave much to be desired if they are intended to serve as known standards for comparison with a specific case.

It is generally held that a suspect will resort to some form of disguise if the contents of the ques-

tioned material are dictated to him, whereas he may not do so if he is requested to write a paragraph of totally unrelated material.

In the experience of the FBI Laboratory, the matter of disguise in known handwriting revolves largely around the question of whether or not the suspect is guilty of having written the questioned material. If not guilty, he seldom, if ever, disguises his known handwriting; if guilty, he often resorts to disguise from the very beginning, regardless of the text dictated to him. In order to resolve the question of whether the handwriting is disguised, it may be necessary to obtain samples of writing prepared by him at a time when he was not under suspicion. These may include business or social correspondence, application forms, school papers, etc.

Since the guilty suspect may be expected to disguise his known handwriting samples from the very beginning, there appears to be no reasonable ground for obtaining unrelated wording on a preliminary basis. Although such a paragraph may contain every character in the alphabet, it often fails to meet one of the most important requirements, namely, the same combinations of letters and words. The shape and style of the letters often vary with the particular word and the position of the letters within the word. Hence, unrelated or dissimilar words do not offer the best means for a handwriting comparison.

## **Courtroom Demonstration**

While the obtaining of proper handwriting standards is important in connection with the technical examination by the expert, it is even more important for a courtroom demonstration. Unless comparable words and letters can be exhibited

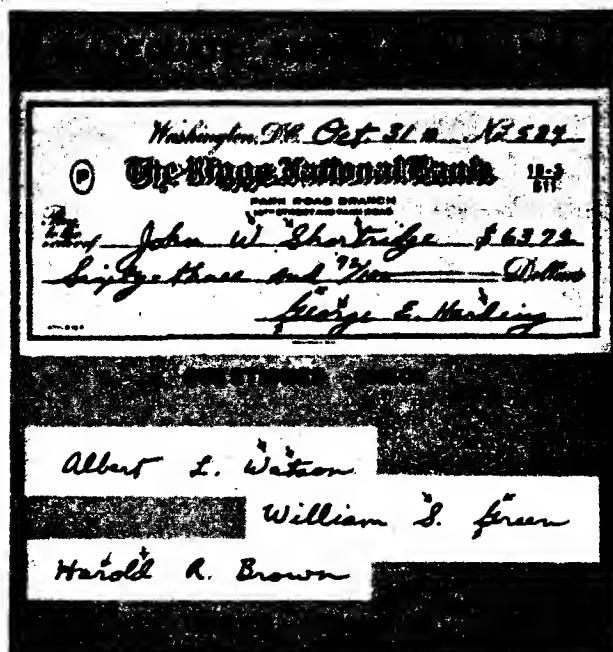


Figure 1.

quickly and efficiently, much of the impact of the testimony is lost.

Handwriting standards prepared in the text of the "London Business Letter" may be useful to those police departments and other agencies wishing to maintain files of known handwriting standards for future reference, but they are not the best standards for comparison with a specific case currently under investigation. At the risk of being repetitious, we repeat that the best possible known standards are those which are prepared from dictation in the wording of the questioned material on similar forms and with similar writing instruments as the questioned material.

Without question, the greatest problem standing in the way of a definite conclusion on the basis of a handwriting comparison is the inadequacy of the known standards (fig. 1). In most instances, the amount of comparable handwriting in cases similar to the illustration will not permit an identification and, in any event, would not be suitable for a satisfactory court demonstration.

### Problems of Disguise

Disguise in the known handwriting furnished from dictation by the suspect may present another type of problem. He may write either very large or very small, he may change the slant of the writing, or he may resort to a form of hand printing

(fig. 2). This should be a significant signal to the investigating officer who obtains the known samples that he may have the right person, and every effort should be made to obtain normal handwriting. This is often accomplished by obtaining extensive known samples. In extreme cases, this may require a second or even a third interview spaced at intervals of days or even weeks apart. As shown in the illustration, the last line of writing permits an identification of the questioned signature, but it falls short in that there is not enough writing to permit identification of the remaining writing on the questioned check.

As stated before, the text of the "London Business Letter" permits a comparison of every character on the questioned check but the process is long and tedious (fig. 3). This is particularly true when a demonstration is attempted before a jury in a courtroom and may result in a loss of interest on the part of the jury.

### Most Desirable Medium

The most desirable known standards are those prepared in the exact word-for-word order of the questioned material on forms similar to that of the questioned material, if such is possible (fig. 4).

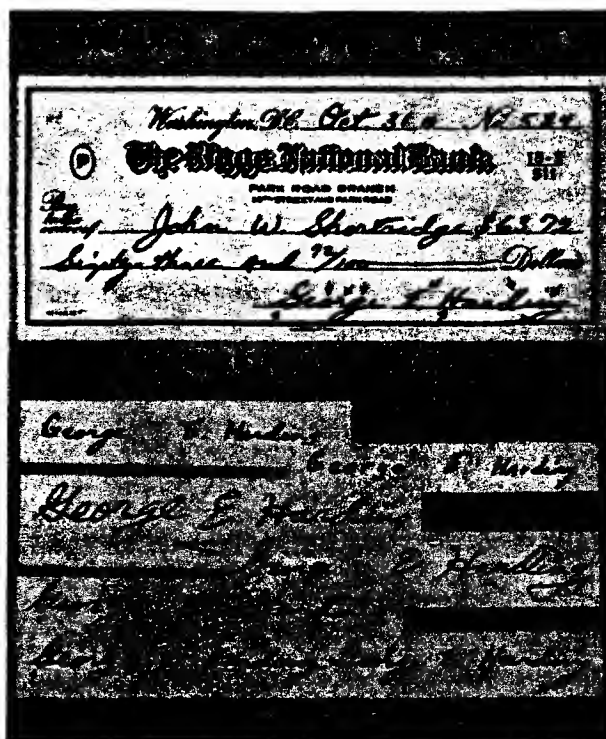


Figure 2.

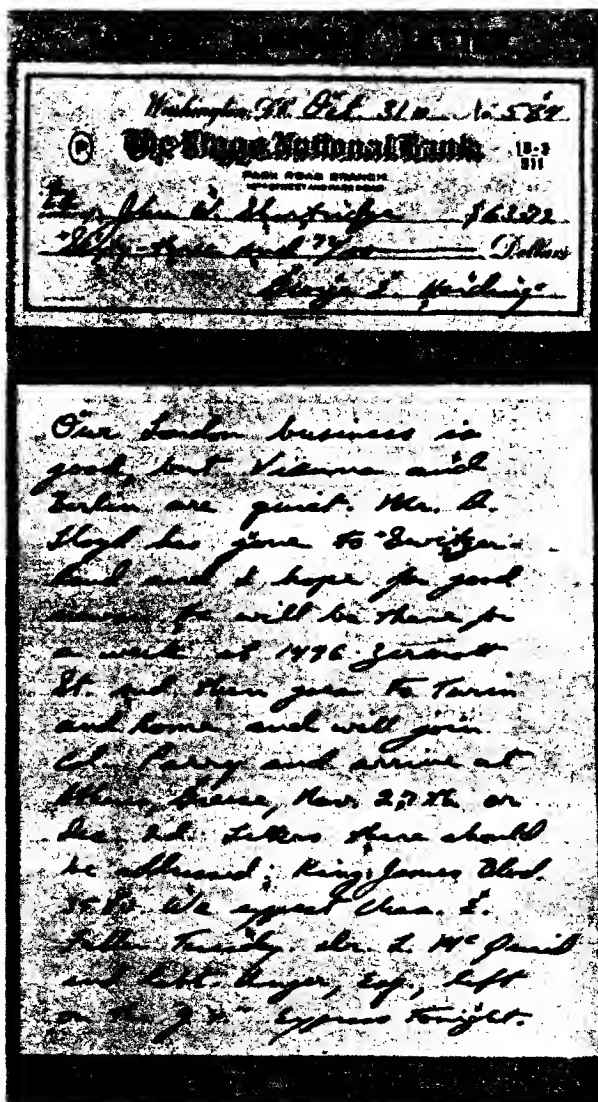


Figure 3.

This provides the most suitable standards for a good side-by-side comparison in the Laboratory and the most desirable medium for a demonstration in the courtroom.

When obtaining known handwriting or hand printing samples from a suspect, the following factors should be considered:

1. Obtain samples from dictation until it is believed normal writing has been produced. (The number of samples necessary cannot be determined in advance.)
2. Do not allow the suspect to see either the original document in question or a photograph thereof.
3. Remove each sample from the sight of the writer as soon as it is completed.
4. Do not give instructions on spelling, punctuation, arrangement, etc.

5. Use the same writing media, such as type and size of paper, writing instruments, printed forms (such as checks, notes, etc.).
6. Obtain the full test of the questioned writing in word-for-word order at least once, if possible. Signatures and less extensive writing should be prepared several times, each time on a different piece of paper. Obscene passages, proper nouns, etc., may be omitted from the dictation.
7. In forgery cases the Laboratory should also be furnished genuine signatures of the person whose name is forged.
8. Obtain samples with both the right and the left hands.
9. Obtain samples written rapidly, slowly, and at varied slants.
10. Obtain samples of supplementary writing such as sketches, drawings, manner of addressing an envelope, etc.
11. Include a statement that the samples are being given voluntarily. Writer should initial each page.
12. Witness each sample on the back, never on the front.
13. If readily available, samples of undictated writing should be obtained, such as applications for employment, social or business correspondence, school paper, etc.

The investigator should be ever mindful of the fact that the quality of the services he can expect from the Laboratory is directly proportional to the quality of the known standards he submits for

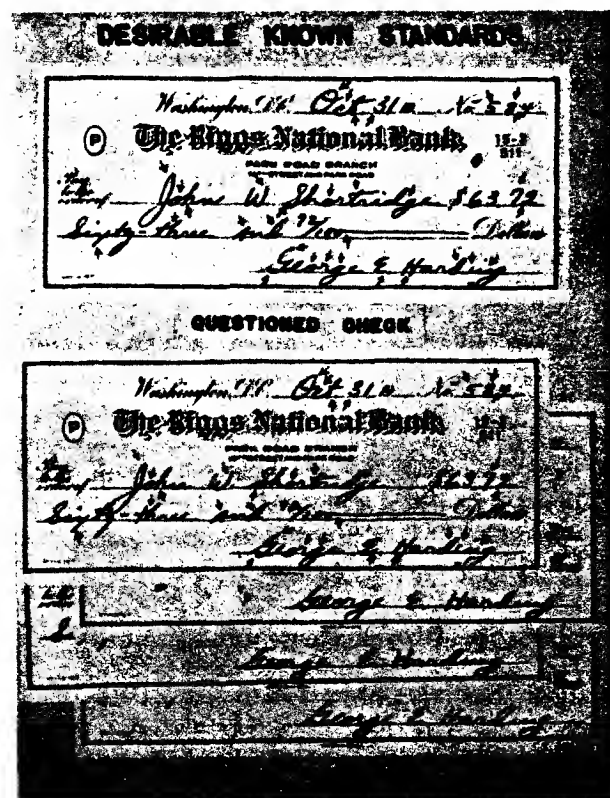


Figure 4.

comparison. He should be keenly aware that the quality of the known standards he obtains is sternly judged when exposed in greatly enlarged form before a court and jury in the glaring spotlight of a public demonstration.

### **MOBILIZED MOONSHINE TO AVOID DETECTION**

To avoid arrest, some bootleggers in one southern State are making use of mobile trailer homes from which their illegal sales are made to "drive-in" customers. The bootleggers move their trailers frequently, often from day to day, and are difficult to trace since they normally advise only trusted customers of their intended locations.

### **Young Thugs Extort Money From School Children**

THE WORDS "KNUCKLES UP" have become a most familiar phrase to a group of delinquent youths in an eastern city who have been using a weapon known as a "knuckler" to extort money from schoolchildren.

An inspector of the local police department advised that a number of boys were arrested for extorting carfare and lunch money from other students. The instrument used is made from the end of a hammer handle which has been grooved on the cut end. The grooved end of the piece of wood is rubbed back and forth over the knuckles, breaking and tearing the skin. This action forces the children to release the money clutched tightly in their closed hands.

### **Yale University Offers Traffic Fellowships**

FELLOWSHIPS FOR THE 1965-1966 academic year will again be made available by the Bureau of Highway Traffic at Yale University to qualified graduate engineers who are citizens of the United States and would like to enter the profession of traffic engineering as a career. The fellowships cover a full academic year of graduate study, starting in September 1965 and terminating the following May.

Students receiving the fellowships are provided with a living stipend of \$1,400 disbursed at the rate of \$175 a month for a period of 8 months and the full year's tuition of \$1,000. The fellowships are made available to the university through grants from the Automotive Safety Foundation and the Insurance Institute for Highway Safety.

The university also offers tuition scholarships to qualified municipal and State highway engineers who will receive financial aid from their employers while undertaking the graduate work. This arrangement is considered by many employers to be a form of inservice training. Most of the professional traffic engineers trained by the Highway Traffic Bureau hold responsible traffic engineering positions in city government and State highway departments as well as commercial agencies.

The academic year of traffic engineering study

consists of two full semesters of classroom work, laboratory and individual research, required reading, field problems, and seminars. The courses include (1) traffic characteristics and measurements, (2) traffic regulations and control devices, (3) transportation planning, (4) highway location and geometric design, (5) highway administration and finance, and (6) city planning and other sociological aspects of highway transportation. Experts in traffic and related fields from all over the country are invited to speak as guest lecturers.

The field of traffic engineering offers unusually promising careers to young engineers. A current survey has indicated need for 1,700 additional qualified traffic engineers in the United States, and this need will double in the next decade as traffic volume increases.

Applications for admission and further information may be obtained by writing to Mr. Fred Hurd, Director, Bureau of Highway Traffic, Yale University, Strathecona Hall, New Haven, Conn. Fellowships and scholarships are awarded to those applicants with highest qualifications. The closing date for filing applications is March 1, 1965. Previous experience in traffic work is not essential to become a successful candidate for a fellowship or scholarship when other qualifications are indicated.



# The Process of Handwriting Comparison

By SGT. JOSEPH A. FANCIULLI

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The document examiner's opinion, based on comparison, reasonable judgment, and experience, can be positive, qualified, negative, or no conclusion. Document examination can be an important investigative tool and should be used to eliminate or develop suspects. With this in mind, the importance of obtaining adequate and sufficient known exemplars for comparison is directly related to the strength of the examiner's opinion.

## **How is Handwriting Compared?**

The examination and comparison of handwriting is basically the same as the comparison of any two or more objects to determine their similarity. To identify handwriting, the examiner must have an agreement or similarity in all the important details of the writing and no differences of significance. What is

an "important detail" and what is a difference of "significance" are matters of judgment. A document examiner is one who has developed a highly refined judgment about these matters based on experience in the examination of thousands of writings for the purpose of identification.

Thus, the document examiner looks for common threads or habits, usual and unusual subtleties which run through both the questioned and known handwriting and make it unmistakably identifiable. In contrast, the latent fingerprint technician compares two fingerprints, locating a certain number of very distinct "points of comparison." This number, usually set by the court, determines if there is an identification or not. Document examination is not that black and white.



Sgt. Joseph A. Fanciulli



John L. Vermilye  
Director of Public Safety

What may be "significant" to one handwriting may be insignificant to another. As we will see later, each set of questioned and known handwriting must be viewed individually, and the amount of "agreement" necessary to make an identification of one handwriting to another can greatly vary from case to case. Hence, qualified opinions must sometimes be given.

To better understand this concept, consider an example given by Irby Todd in his paper "The Process of Comparison." What is meant by "agreement in all important details and no differences of significance"? Take, for example, a description of a wanted person.

White male  
5 feet 10 inches  
30 years old  
Dark hair  
Brown eyes  
170 pounds  
1/2-inch diagonal scar on left cheek  
Heart-shaped birthmark on back of neck  
Little finger of left hand missing  
Social security number tattooed on bottom of right foot

The first six elements, down through 170 pounds, are not unusual. There would be thousands of men who would answer the description up to that point. It is also true that thousands of men would be eliminated by this description. With the addition of each feature, the field of suspects would be narrowed considerably. By the time we get to the last point, it would be safe to assume that if a person fits all points of the description, he would be the one and only person who is being sought.

But, suppose that each and every element of the description matched except that the person before us had all 10 fingers intact. That would be a difference of "significance," and we would not have the right man. On the contrary, suppose that all details matched except that our suspect weighed 190 pounds. That would *not* be a difference of significance.

The same ideas can be applied to handwriting. In almost all writing there are some features that are ordinary, perhaps even most of them will fall into that class. However, there will also be elements in the writing that are unusual or relatively unusual. If there is substantial agreement in all details, and the writing is *naturally made*, then we have a basis for comparison. The degree of this agreement determines if the comparison is positive or qualified. This agreement can never be perfect, since no one writes the same way twice. The writing must be studied to determine the range of its normal variation and to see if the questioned writing falls within that range. This is where the experienced judgment of the examiner comes into play.

Many aspects of the questioned and known handwriting are examined with the above concept in mind: Writing skill, style, slant, line quality, speed, disguise, variation, size, angularity, spacing, proportion height, and pressure, to mention a few. Thus, the obtaining of adequate and sufficient exemplars by the investigator is paramount.

↓ ↓ ↓  
John Jones

Questioned Signature

John Jones

John Jones

John Jones

John Jones

John Jones

Known Samples



## Taking Handwriting Samples

The basic rule to remember in the taking of handwriting samples is that no amount is too much. The document examiner can be seriously limited by the lack of proper exemplars, and serious error can be made in making conclusions based on insufficient or incorrect exemplars. It is the responsibility of the investigator to see that the type and quantity of exemplars required in each case are made available to the document examiner.

One of the first problems faced by the document examiner is determining what is the genuine writing of the suspect. The only reliable known exemplars are either those the person admits to have written or where a witness can testify that he or she observed the individual actually writing the documents. In certain cases and in certain courts, writing recorded as public records is sometimes accepted.

The second major problem is obtaining a sufficient number of exemplars executed under similar conditions as the writing in question.

What is a sufficient number of exemplars? There is no general rule that

will apply to all cases. In fact, cases will vary widely. If the writing in question is natural in its execution, without any indication of disguise, simulation, or copy, there are times that a conclusion can be reached with only a minimum number of exemplars, providing the writing deviates from the copy book in characteristics that are sufficient to make effectively an identification. The ever-present danger in an opinion based on too few exemplars is the natural variation which exists in all writing. Here we are concerned with sufficient exemplars to establish the extent of the individual natural variations. In this case, a qualified opinion is more appropriate than a positive. This will let the investigator know if he is on the right trail or completely off base. Generally, a positive opinion is necessary for filing purposes if there is little other evidence. However, qualified opinions have supported probable cause. Such matters should be taken up with the prosecutor on a case-by-case basis.

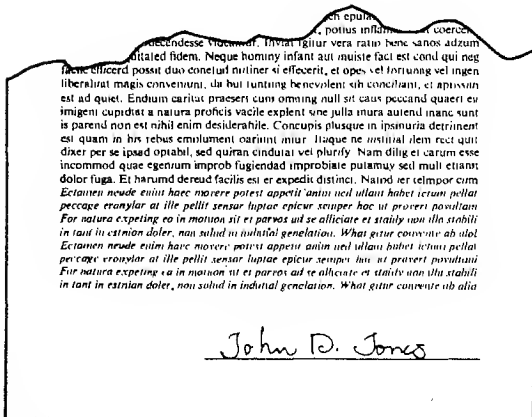
If the questioned writing is a simulated signature, that is, an attempt to imitate someone else's signature by drawing or tracing, no amount of exem-

plars will enable the examiner to reach a conclusion.

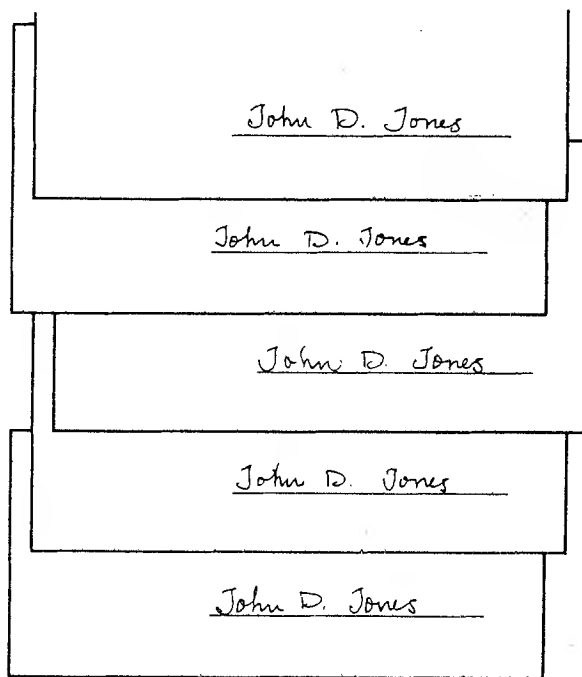
In a few instances, disguised writing can be associated with a particular person, but a larger number of exemplars are required. The number or amount of writing required also depends on the type of exemplars obtained.

Particular problems occur in the examination of handwriting produced by persons who have been under the influence of alcohol or narcotics when the questioned writing was produced and are not when exemplars are taken (and vice versa). Variations caused by lack of muscle control, etc., more often than not result in a qualified opinion or no opinion, even if great amounts of exemplars are obtained. However, these examinations should not be neglected, as one never knows which will result in positive opinions.

What type of exemplars are required? It is difficult at best, and in most cases impossible, to compare two or three signatures of John Smith with Ben Jones and expect results. Also, in extended writing, the closer the letter combination between the



Questioned Signature



Known Samples

questioned and known writing, the better the chances for reaching a definite conclusion. It is not always possible to meet all of the following requirements, but the success of the examiner will often depend on the similarity between the known and questioned writing.

Cursive writing must be compared with cursive writing, and printing must be compared with printing. Capital letter print cannot be compared with small letter print, etc. The writing instrument must also be taken into consideration. For example, a pencil is compared with a pencil, a ballpoint with a ballpoint, and a fluid ink pen with a fluid ink pen. Although it may be possible to make an identification between some of these writing instruments, with others it is impossible. For example, the writing of a ballpoint pen cannot be compared to a felt-tip pen without some difficulty.

If the exemplars are taken by the investigator for the purpose of comparison, he can exercise control over the contents of the script. There are different procedures to follow in taking exemplars. Plan in advance the type of writing instruments and materials that

are required and ensure the same type of pen as used in the questioned documents is available, for writing material should be as close to the questioned document as possible. For example, if the document in question is a check, have the suspect fill out sample checks. If it is an endorsement, have him sign his name on the same size paper as the back of a check. Instruct the writer to write. Do not let him look at the questioned document and do not tell him how to spell or punctuate. But, you will control the style, cursive or printed. Take several exemplars which have no relationship with the writing in question, such as a standard handwriting exemplar which includes all letters of the alphabet, various words, and letter combinations, but do not stop at this point. In addition, always have the suspect write the same words, letters, and numbers as are written on the writing in question.

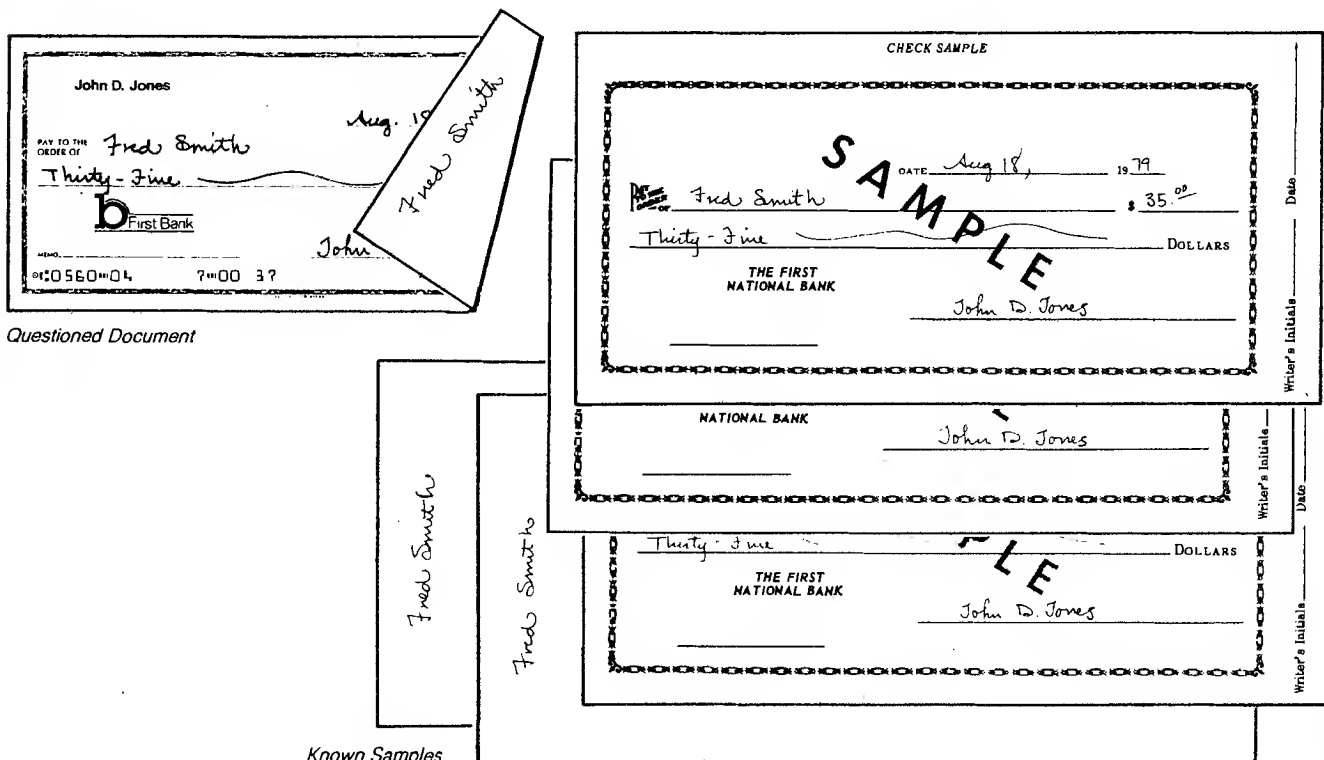
If the questioned writing appears to have been disguised, obtain samples written with both the right and left hand. If it appears that he attempted to disguise his writing, check his driver's license. Often the disguise is obvious.

In this case, you will need several exemplars to make an identification.

Remember, the examiner's opinion is based on comparison, reasonable judgment, and experience. Opinions can be positive, qualified, negative, or no conclusion. Document examination can be an important investigative tool and should be used in that manner to eliminate or develop suspects. If the results of the examination "make the case," this is icing on the cake. This will, however, not happen every time, as it will not happen with latent prints or the polygraph. The limitations of this forensic science should be realized.

The investigator of document-related crimes should become familiar with the work of the document examiner. Proper lines of communication can only enhance the quantity and quality of case filings.

**FBI**





# Examination of a Typewritten Document

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Generally, typewriters and the printing sources in a word processing system currently can be equipped with conventional typebars, a single element ball, or a printwheel. A typewriter is a machine which has very limited or no memory capabilities. However, a final typewritten document cannot be determined to have been the result of a typewriter or a word processing system.

Developments and changes in the typewriting industry require that the investigating officer be fully updated regarding these advancements. For a typewriter examination by the FBI Laboratory to be of value to the investigation and prosecution of cases, investigators will have to be more knowledgeable regarding typewriters.

## Basic Terms

- 1) Conventional typewriter using typebars—This popular typewriter has approximately 44 typebars connected to the keyboard. (See fig. 1.)
- 2) Typewriter using a single element or ball—This is a typewriter equipped with one element containing all the characters represented by the typewriter keyboard. (See fig. 2.)
- 3) Typewriter using a printwheel (electronic typewriter)—This is a typewriter equipped with a disc-type device called a printwheel. The printwheel contains all of the characters represented on the typewriter keyboard. (See fig. 3.)
- 4) Horizontal spacing—This is a measurement of the space a typewritten character occupies horizontally. The two most common spacings in the United States are 10 characters per inch (pica style of type) and 12 characters per inch (elite style of type). (See fig. 4.)

5) Proportional spacing—This type of horizontal spacing is not constant. Each typewritten character can occupy a different amount of horizontal space. The capital "M" occupies five units while the lower case "i" occupies two units of horizontal space. Each unit is equivalent to 1/32, 1/36, or 1/45 of an inch on the conventional typewriter. (See fig. 4.)

6) Dual-spaced machine—This is a typewriter that is capable of typing horizontally 10 characters or 12 characters per inch. The change of horizontal spacing is done easily by the flip of a switch. This is commonly found on single element (ball) typewriters.

7) Electronic typewriter—This machine usually has the capability of typing 10, 12, and 15 letters to an inch, as well as proportional spacing.

## **History and Development of Typewriters**

Starting with the first commercially successful typewriter in 1873 (Remington), the machines used to prepare typewritten documents have progressed and changed dramatically. Beginning with a typewriter using the hammer (typebars) which used only capital (uppercase) letters, intense competition between various companies brought about continual improvements. In 1888, the "touch typing" system was introduced. In 1920, the first portable typewriter was marketed; in 1940, IBM introduced a proportional

Figure 2



spaced typewriter; in 1961 and 1962, single element (ball) typewriters were available; and in 1970 and 1971, dual-pitched (spacing) machines were introduced. The mid-1970's produced electronic typewriters and the use of "printwheels," "daisywheels," and disk-type wheels containing the type styles. The printed text on a document can now be the result of a typewriter, a word processing system, or a high-speed printer.

The two most frequently made typewriting examinations are determining the make and model typewriter used to prepare the questioned document and determining whether a specific known typewriter prepared the questioned document.

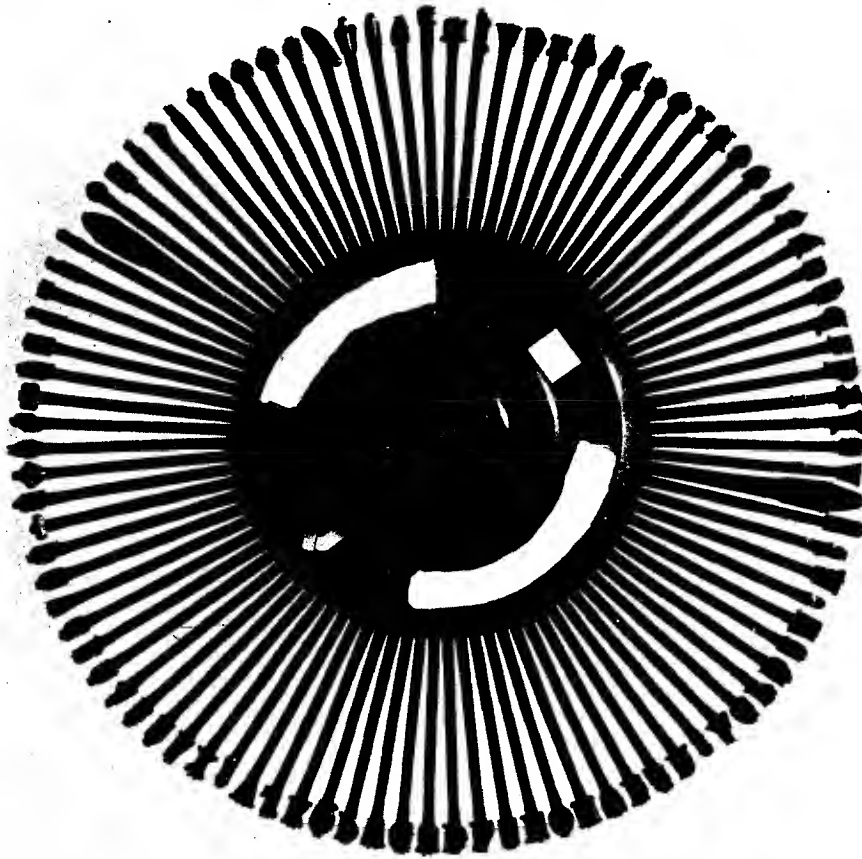
## **Classification of Make and Model**

Original typewriting is preferred for examination. In examining the typewriting, the document examiner first determines the horizontal spacing of the questioned typewriting. The typewritten text is then examined for any characteristics unique to a particular typewriter, typewriter manufacturer, or type manufacturer. If no unique character(s) are found, the questioned typewriting is searched through the typewriter standards file. This file consists of American and foreign type styles collected by the FBI Laboratory over the past 50 years.

Figure 1



Figure 3



Once a known standard similar to the questioned typewriting is located, the questioned typewriting is compared with the known standard to insure that each character corresponds with the respective character on the known standard. The known standard is also used to verify that all suspected defects in the questioned typewriting are, in fact, defects.

Currently, numerous typewriter manufacturers obtain type fonts from the same type font manufacturer(s). Thus, many different brand name typewriters are equipped with a similar, if not identical, style of type. Without having a complete keyboard of the questioned text, it is often difficult to determine on which specific brand typewriter(s) the questioned typewriting was produced.

#### **Comparison of the Questioned Typewritten Text With Known Typewritten Exemplars**

When questioned typewriting is compared with known typewritten exemplars, three general areas of examinations are made:

- 1) Size and spacing (vertical and horizontal);
- 2) Type style; and
- 3) Unique identifying characteristics—character and alignment defects.

Using these three general areas, the FBI document examiner ultimately tries to determine if a particular typewriter prepared the questioned document to the exclusion of all other typewriters.

Referring to the machines previously described as having dual spacing, single elements, or printwheels, the investigating officer must not be

misled by horizontal spacing and/or different alignment characteristics. Remember, the same typewriter can type 10 letters and 12 letters per inch. Also, single elements and printwheels can be interchanged from one typewriter to another. This means that if a ball-type element or printwheel was used to prepare the questioned document, it is necessary not only to identify the single element or printwheel but also the specific typewriter. These compound considerations make the typewriter identification more complex.

Unique identifying characteristics commonly found on typebar machines, such as broken or bent serifs on a particular character, are not found as frequently on single elements or printwheels. This further complicates determining whether the questioned document can be positively associated with a particular typewriter or typewriting source.

In general, due to typewriter companies obtaining their type styles from the same manufacturer and due to the lack of unique identifying characteristics in the typewriting produced by single element and printwheel typewriters, the investigating officer should not expect too many positive identifications involving typewriters equipped with single elements and printwheels. However, many associations and identifications can be made when the conventional typebar machines are involved in the preparation of a typewritten text. Finally, although the particular typewriter may not be positively identified, it may be possible to determine that a particular typewriter or typewriting source did not prepare the questioned document.

This is Pica Spacing...Ten letters per horizontal inch

This is Elite Spacing...Twelve letters per horizontal inch

This is proportional spacing ... M M i i M l M s 5 u N i

### Obtaining Known Typewritten Exemplars

The following guidelines are suggested for obtaining known exemplars from a suspect typewriter:

- 1) If the typewriter ribbon is obviously new, remove it from the typewriter and send it to the laboratory with the typewriting exemplars prepared from another ribbon. (The text of the material in question may still be discernible on the ribbon.)
- 2) Unless the questioned document is excessively long, obtain its complete text, including typographical errors.
- 3) After placing the typewriter in a stencil position or removing the cloth ribbon, obtain samples of each character on the keyboard by typing through carbon paper which has been inserted carbon side down over a piece of white bond paper.
- 4) Make certain that each specimen contains the make, model, and serial number of the typewriter from which it was procured, as well as the date and the initials of the officer.
- 5) Typewriter specimens should be taken from suspect typewriter(s). It is usually not necessary to forward the typewriter to the FBI Laboratory if complete known exemplars are obtained. This will insure against loss or damage to the typewriter during shipment.

Also, examination of the typewritten exemplar may produce the requested result, thus eliminating cost and time involved in shipping the typewriter to the Laboratory. However, when certain alignment or nonprinting areas are present in a questioned and known typewriting, the document examiner may require that the known typewriter be submitted to the Laboratory for a more definite opinion to be reached.

- 6) If possible, after a typewritten exemplar is obtained from a suspect typewriter, the investigator should insure that the typewriter is kept in its current condition. For example, dirty type face could be identified with a questioned text typed on that typewriter. However, if maintenance and cleaning of the type has been conducted on that typewriter, the absence of the dirt particles on the type would change the appearance of the typewriting.

### Typewriter Ribbons and Inks

Many typewriter ribbons, such as cloth, carbon with wax base ink, polyethylene and solvent coatings, mylar based, etc., are commercially available. When both the questioned document and the typewriter ribbon are submitted, it is possible to determine whether the questioned typewritten text was prepared by the ribbon submitted or by another ribbon of the same general style.

The FBI Laboratory does examine ribbons for suspected typewriting. Before submitting the ribbon for determining the text appearing on a particular ribbon, the investigating officer should determine whether the text is readable, since not all ribbons removed from typewriters can be read.

It is hoped that this article will better prepare the investigating officer to conduct a preliminary field examination of the evidence and better understand the opinions of the document examiner. The Document Section of the FBI Laboratory is always available to answer any questions regarding questioned documents. **FBI**